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TRACKING DATA EVALUATION REPORT FOR STS-119 and ISS

Daily Period: Mar 23 at 235727 GMT through Mar 24 at 224755 GMT
Mission Period: Mar 14 at 000000 GMT through Mar 24 at 224755 GMT

1. EXECUTIVE SUMMARY

This report summarizes all GN and SN tracking data for ISS and STS (except for ISS one-way Doppler data) since the beginning of mission support for STS-119. The executive summary of this report provides a daily overview of the number of passes received for ISS and STS as well as a daily summary of significant tracking data anomalies. The remainder of this report provides a detailed cumulative mission summary of all GN and SN tracking data for ISS and STS.

The C-band tracking support for ISS started on March 14, 2009. STS-119 was launched on March 15, 2009 at 234344 GMT. STS-119 docked with ISS on March 17 at 212000 GMT.

Eight STS C-band passes from EAFF, FRCF, WL2F, and WLPQ were received during the daily reporting period. The C-band passes received during the daily reporting period had nominal angle and range tracking data.

Five 1-way STS S-band passes from AGO3 and MIL3 were received during the daily reporting period. The MIL3 1-way pass on March 24, 2009 at 035910 GMT had an Angle1 drift resulting in 50% anomalous Angle1 data. The remaining 1-way STS S-band passes during the daily reporting period had nominal angle tracking data.

There were no 2-way STS S-band passes received during the daily reporting period.

The cumulative mission percentages of anomalous SN TDRS-3, TDRS-4, TDRS-5, TDRS-6, and TDRS-10 tracking data for STS-119 are 1.7, 2.4, 2.9, 2.4, and 2.4, respectively. The anomalous SN tracking data has consisted of various Doppler drifts, biases, and/or spikes.

No significant tracking data problems were noted for ISS during the daily reporting period. One tracking data problem was noted for STS-119 during the daily reporting period. The MIL3 1-way pass on March 24, 2009 at 035910 had Angle1 variations resulting in 50% anomalous data. No other tracking data problems were noted for STS-119 during the daily reporting period.

2. INTRODUCTION

This memorandum, which is produced by the Metric Tracking Data Evaluation (MTDE) Task located within the Flight Dynamics Facility (FDF) at Goddard Space Flight Center (GSFC), provides a Ground Network (GN) and Space Network (SN) tracking data evaluation report for the Space Transportation System (STS) and for the International Space Station (ISS). This report includes information about data processing, network validation, and network calibration for STS and ISS missions.

3. DATA PROCESSING

The metric tracking data evaluated for this report was processed using the Goddard Trajectory Determination System (GTDS), which is the primary orbit determination system used by the FDF. This system produces Observed minus Computed (O-C) values by comparing actual tracker measurements with computed measurements derived from weighted least-squares orbital solutions. Orbital solutions for ISS are derived by using 24 hours of C-band range tracking data as well as SN two-way range and Doppler tracking data if available. Orbital solutions for STS are derived by using one revolution (approximately 96 minutes) of SN two-way Doppler tracking data, GN S-band range and two-way range-rate tracking data, and C-band range tracking data.

4. NETWORK VALIDATION

The validation of metric tracking data is the process of determining the quality of tracking data measurements received from the trackers. The output from the GTDS orbital solutions is evaluated to assess the accuracy and usefulness of the tracking data. The O-C values (also known as residuals) and the amount of data edited from the orbital solutions (a 3-sigma edit criterion is normally used) are statistically analyzed to identify data anomalies and to assess the overall network tracking performance. Tracking data anomalies are identified and noted in this report. Anomalous tracking data as well as tracking data that is flagged invalid by the tracker is generally not used for orbit determination.

5. NETWORK CALIBRATION

The calibration of metric tracking data is the process of using statistical evaluation techniques to determine tracker and network performance. Anomalous tracking data as well as tracking data that is flagged invalid by the tracker is generally not used for network calibration. Calibration parameters for each tracker, which are computed from the GTDS calibration O-C statistics for each pass, are defined as follows:

Tracker Mean: A weighted sample mean of pass O-C means. The tracker mean is an estimate of the bias in the measurements.

Deviation: A weighted 2-sigma sample standard deviation (SD) of pass O-C means about the tracker mean. A Student's t correction for small sample size is applied when necessary. If there are fewer than four passes for a tracker, the deviation is not computed. The deviation is a measure of the bias consistency.

Average Pass SD: A weighted Root Mean Square (rms) of pass O-C standard deviations. This parameter provides an upper limit for the average pass system noise.

Root Sum Square: The Root Sum Square (rss) of the tracker mean, half the deviation, and the average pass SD. This parameter is an estimate of the average measurement error. The rss is not computed if there are fewer than four passes for a tracker.

All of these statistical parameters are weighted by the number of points in each pass.

6. GN TRACKING DATA EVALUATION CRITERIA

GN S-band tracking data for STS is comprised of x-angle, y-angle, range and range-rate tracking data. GN C-band tracking data for STS and ISS is comprised of azimuth angle, elevation angle, and range tracking data.

S-band and C-band GN tracking data taken below 7° in elevation is not used for orbit determination or for network calibration. Poor quality x-angle or azimuth angle tracking data taken in antenna keyhole regions (where the absolute value of the y-angle is greater than or equal to 70° for X-Y antennas or the absolute value of the elevation angle is greater than or equal to 70° for Az-EI antennas) is not considered anomalous. Tracking data received during periods of antenna masking is excluded from the tracker calibration statistics and is not considered anomalous.

S-band GN angle tracking data is generally considered to be anomalous if more than 20 percent of the data flagged valid has residuals greater than or equal to 0.05°. C-band GN angle tracking data is generally considered to be anomalous if more than 20 percent of the angle data flagged valid has residuals greater than or equal to 0.10°. S-band GN range tracking data is generally considered to be anomalous if more than 20 percent of the data flagged valid has residuals greater than or equal to 20 meters. C-band GN range tracking data is generally considered to be anomalous if more than 20 percent of the data flagged valid has residuals greater than or equal to 50 meters. S-band 2-way GN range-rate tracking data is generally considered to be anomalous if more than 20 percent of the data flagged valid has residuals greater than or equal to greater than 0.5 meters per second.

Occasionally a C-band tracker will track the wrong target vehicle when STS and ISS are in very close proximity to each other. This pass will be identified in the FDF reports with the name of the intended target vehicle. If no usable tracking data is received from the intended target vehicle, then this pass will be identified as an anomalous pass.

7. SN TRACKING DATA EVALUATION CRITERIA

SN tracking data for ISS is comprised of one-way S-band and K-band Doppler tracking data. Only the one-way S-band Doppler tracking data is used in the orbit determination process for ISS. The ISS one-way S-band Doppler tracking data residuals, which measure the offset from the nominal frequency of the ISS transponder, are generally considered nominal as long as the residuals are less than 700 Hertz. Reports are generated by the FDF on a weekly and monthly basis that summarize the frequency offset for the ISS transponders. If the frequency offset exceeds 700 Hertz, FDF personnel will issue a report recommending an adjustment to the forward and transmit frequencies for ISS.

If 2-way SN tracking of ISS is available, then the FDF will use the coherent range and Doppler tracking data as well as C-band tracking data for orbit determination purposes.

SN tracking data for STS is comprised of two-way S-band Doppler tracking data. The Doppler tracking data for STS is used for determining the quality of the tracking service. Each Doppler tracking data observation is evaluated and categorized as usable, as anomalous, or as invalid. An invalid observation is one that has been flagged as invalid in the tracking data message (TDM) at White Sands Complex (WSC). Each tracking data event is rated as a success or as a failure. A success is a tracking data event that has at least 70 percent usable Doppler tracking data. A failure is an event that has less than 70 percent usable Doppler data.

8. GN TRACKING DATA PASSES

The following table lists the number of daily and mission S-band and C-band passes received from each tracker for both ISS and STS having a maximum elevation of at least 7°. Only passes with a maximum elevation of at least 7° are used by the FDF for orbit determination and anomaly reporting. The number of passes listed in this table may not agree with the actual number of passes scheduled.

Tracker	ISS		STS-119	
	Daily	Mission	Daily	Mission
AGO3	0	0	2	17
ANTQ	0	3	0	1
ASCQ	0	6	0	1
EAFF	0	6	1	10
FRCF	0	7	3	29
KMRF	0	0	0	1
MIL3	0	0	3	18
MILA	0	0	0	12
WL2F	0	10	2	23
WLPQ	0	5	2	22
TOTALS	0	37	13	134

9. GN TRACKING DATA ANOMALIES

The following table contains a chronological listing of all GN tracking data anomalies for both ISS and STS for the entire mission. Tracking data anomalies are only reported for passes having a maximum elevation above 7°. Tracking data in the keyhole region or tracking data affected by station masking is not considered anomalous.

Start	Stop	Tracker	Satellite	Comments
20090319/080500	20090319/081510	MILA	STS-119	Angle1 mean = -0.062 deg, sd = 0.017 deg, 66.7% anomalous.
20090320/231542	20090320/232254	FRCF	STS-119	Pass 100% anomalous. Problem reported at the station; pass unusable.
20090322/044000	20090322/045100	MIL3	STS-119	Angle1 variations: mean = 0.027 deg, sd = 0.051 deg, Angle1 50.0% anomalous.
20090323/163550	20090323/164400	AGO3	STS-119	Angle1 drift from +0.060 deg to +0.153 deg after maximum elevation, Angle1 27.0% anomalous.
20090324/035910	20090324/041010	MIL3	STS-119	Angle1 variations: mean = 0.047 deg, sd = 0.035 deg, 50.0% anomalous.

10. GN STATISTICS

The following report provides GN tracking data residual statistics for both ISS and STS. Statistics, consisting of mean, standard deviation and number of points, are computed for each pass for angle, range, and range-rate tracking data residuals. The statistics are summarized for each tracking station for each satellite. The statistics are computed for two different time intervals. The first time interval corresponds to the tracking data summarized on a daily basis. The second time interval corresponds to the tracking data summarized for the entire mission. Group statistics, consisting of mean, deviation, average pass standard deviation, and rss, are also computed for each tracker for both ISS and STS.

FLIGHT DYNAMICS FACILITY GN STATISTICS PROGRAM

20090323/235727 = START TIME FOR STATISTICS INTERVAL 1
20090324/224755 = STOP TIME FOR STATISTICS INTERVAL 1

20090314/000000 = START TIME FOR STATISTICS INTERVAL 2
20090324/224755 = STOP TIME FOR STATISTICS INTERVAL 2

LO SPEED TRACKING DATA

N = INCLUDE TT&C DATA (Y/N)

SATELLITE(S)
ISS
STS-119

STATION(S)
ALL

STATISTICS INTERVAL 1

STATION = AGO3 SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)							
	MEAN	SD	PTS		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A	M ANOMALY C
20090324/152620	20090324/153520	0.048	0.013	40	100.0	-0.011	0.009	40	100.0	-----	-----	0	0.0	-----	-----	0	0.0	1	
20090324/170310	20090324/171040	-0.020	0.013	11	100.0	-0.006	0.008	11	100.0	-----	-----	0	0.0	-----	-----	0	0.0	1	

STATION = AGO3 SATELLITE = STS-119

RESIDUALS								VDNA NOISE				RATING						
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY				
ANGLE 1 (DEG)	0.033	-----	0.013	-----	51	2		0.0053	0.0053	0.0053	2	2	100.0					
ANGLE 2 (DEG)	-0.010	-----	0.009	-----	51	2		0.0054	0.0078	0.0062	2	2	100.0					
RANGE (M)	-----	-----	-----	-----	0	0		-----	-----	-----	0	2	0.0					
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0		-----	-----	-----	0	2	0.0					

STATION = AGO3 SATELLITE = STS-119 SUMMARY

STATION = EAFF SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)					ANGLE 2 RESIDUALS (DEG)					RANGE RESIDUALS (M)					RANGE-RATE RESIDUALS (M/S)										
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	SD	PTS	%USE A	M	SD	PTS	%USE A	M	ANOMALY C
20090324/215324	20090324/220330	0.008	0.011	41 100.0	0.008	0.005	41	100.0	5.164	17.981	41	97.6	-----	-----	-----	-----	0	0.0	0	0.0	0	0.0	0	0.0	

STATION = EAFF SATELLITE = STS-119

RESIDUALS					VDNA NOISE					RATING															
MEAN	DEV	SD	RSS	PTS PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY	MEAN	SD	PTS	%USE A	M	SD	PTS	%USE A	M	SD	PTS	%USE A	M	ANOMALY C
ANGLE 1 (DEG)	0.008	-----	0.011	-----	41	1	0.0086	0.0086	0.0086	1	1	100.0	ANGLE 2 (DEG)	0.008	-----	0.005	-----	41	1	0.0030	0.0030	0.0030	1	1	100.0
RANGE (M)	5.164	-----	17.981	-----	41	1	11.0701	11.0701	11.0701	1	1	97.6	RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	0	0.0	0	0.0

STATION = EAFF SATELLITE = STS-119 SUMMARY

STATION = FRCF SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)					ANGLE 2 RESIDUALS (DEG)					RANGE RESIDUALS (M)					RANGE-RATE RESIDUALS (M/S)										
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	SD	PTS	%USE A	M	SD	PTS	%USE A	M	ANOMALY C
20090324/003630	20090324/004724	-0.004	0.008	53 100.0	-0.003	0.013	53	100.0	1.935	13.966	53	100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0.0	0	0.0	
20090324/052642	20090324/053718	-0.004	0.007	43 100.0	-0.005	0.010	43	100.0	7.650	17.728	43	97.7	-----	-----	-----	-----	0	0.0	0	0.0	0	0.0	0	0.0	
20090324/070130	20090324/071336	-0.006	0.006	67 100.0	-0.000	0.008	67	100.0	9.084	16.834	67	95.5	-----	-----	-----	-----	0	0.0	0	0.0	0	0.0	0	0.0	

STATION = FRCF SATELLITE = STS-119

RESIDUALS					VDNA NOISE					RATING															
MEAN	DEV	SD	RSS	PTS PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY	MEAN	SD	PTS	%USE A	M	SD	PTS	%USE A	M	SD	PTS	%USE A	M	ANOMALY C
ANGLE 1 (DEG)	-0.005	-----	0.007	-----	163	3	0.0018	0.0053	0.0041	3	3	100.0	ANGLE 2 (DEG)	-0.002	-----	0.010	-----	163	3	0.0043	0.0085	0.0066	3	3	100.0
RANGE (M)	6.381	-----	16.211	-----	163	3	6.3807	14.2417	9.8748	3	3	97.5	RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	0	0.0	0	0.0

STATION = FRCF SATELLITE = STS-119 SUMMARY

STATION = MIL3 SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)					ANGLE 2 RESIDUALS (DEG)					RANGE RESIDUALS (M)					RANGE-RATE RESIDUALS (M/S)								
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	SD	PTS	%USE A	M	SD	PTS	%USE A

		MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	ANOMALY C
20090324/035910	20090324/041010	0.047	0.035	14	50.0	-0.008	0.009	16	100.0	-----	-----	0	0.0	-----	-----	0	0.0	1	Anomaly
20090324/053440	20090324/054540	-0.007	0.029	24	91.7	-0.006	0.011	29	100.0	-----	-----	0	0.0	-----	-----	0	0.0	1	
20090324/202210	20090324/203440	0.013	0.029	24	91.7	-0.010	0.006	24	100.0	-----	-----	0	0.0	-----	-----	0	0.0	1	

STATION = MIL3 SATELLITE = STS-119

RESIDUALS

VDNA NOISE

RATING

	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.013	-----	0.030	-----	62	3	0.0109	0.0167	0.0149	3	3	82.3	
ANGLE 2 (DEG)	-0.008	-----	0.009	-----	69	3	0.0021	0.0075	0.0055	3	3	100.0	
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	3	0.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	3	0.0	

STATION = MIL3 SATELLITE = STS-119 SUMMARY

STATION = WL2F SATELLITE = STS-119

	ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)						
	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	ANOMALY C	
20090324/022218	20090324/023400	0.006	0.011	50	100.0	-0.014	0.015	50	100.0	-4.894	13.407	50	100.0	-----	-----	0	0.0	0	
20090324/035736	20090324/041012	0.001	0.011	68	100.0	-0.008	0.011	68	100.0	3.045	19.074	68	98.5	-----	-----	0	0.0	0	

STATION = WL2F SATELLITE = STS-119

RESIDUALS

VDNA NOISE

RATING

	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.003	-----	0.011	-----	118	2	0.0048	0.0091	0.0069	2	2	100.0	
ANGLE 2 (DEG)	-0.011	-----	0.013	-----	118	2	0.0043	0.0075	0.0059	2	2	100.0	
RANGE (M)	-0.319	-----	16.913	-----	118	2	7.4190	8.4661	8.0312	2	2	99.2	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	

STATION = WL2F SATELLITE = STS-119 SUMMARY

STATION = WLPQ SATELLITE = STS-119

	ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)						
	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	M	ANOMALY C	
20090324/202400	20090324/203718	0.001	0.007	66	100.0	0.005	0.004	68	100.0	1.169	13.971	68	98.5	-----	-----	0	0.0	0	
20090324/220012	20090324/221212	-0.002	0.002	50	100.0	0.002	0.003	50	100.0	-8.215	14.333	50	98.0	-----	-----	0	0.0	0	

STATION = WLPQ SATELLITE = STS-119

RESIDUALS

VDNA NOISE

RATING

	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.000	-----	0.005	-----	116	2	0.0011	0.0019	0.0016	2	2	100.0	
ANGLE 2 (DEG)	0.004	-----	0.004	-----	118	2	0.0013	0.0015	0.0014	2	2	100.0	
RANGE (M)	-2.807	-----	14.125	-----	118	2	7.2123	8.4808	8.0167	2	2	98.3	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	

STATION = WLPQ SATELLITE = STS-119 SUMMARY

COMBINED STATISTICS FOR EACH STATION

STATION = AGO3
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.033	-----	0.013	-----	51	2	0.0053	0.0053	0.0053	2	2	100.0	
ANGLE 2 (DEG)	-0.010	-----	0.009	-----	51	2	0.0054	0.0078	0.0062	2	2	100.0	
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	

COMBINED STATISTICS SUMMARY FOR AGO3

STATION = EAFF
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.008	-----	0.011	-----	41	1	0.0086	0.0086	0.0086	1	1	100.0	
ANGLE 2 (DEG)	0.008	-----	0.005	-----	41	1	0.0030	0.0030	0.0030	1	1	100.0	
RANGE (M)	5.164	-----	17.981	-----	41	1	11.0701	11.0701	11.0701	1	1	97.6	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	1	0.0	

COMBINED STATISTICS SUMMARY FOR EAFF

STATION = FRCF
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY

	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.005	-----	0.007	-----	163	3	0.0018	0.0053	0.0041	3	3	100.0	
ANGLE 2 (DEG)	-0.002	-----	0.010	-----	163	3	0.0043	0.0085	0.0066	3	3	100.0	
RANGE (M)	6.381	-----	16.211	-----	163	3	6.3807	14.2417	9.8748	3	3	97.5	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	3	0.0	

COMBINED STATISTICS SUMMARY FOR FRCF

STATION = MIL3
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.013	-----	0.030	-----	62	3	0.0109	0.0167	0.0149	3	3	82.3	
ANGLE 2 (DEG)	-0.008	-----	0.009	-----	69	3	0.0021	0.0075	0.0055	3	3	100.0	
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	3	0.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	3	0.0	

COMBINED STATISTICS SUMMARY FOR MIL3

STATION = WL2F
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.003	-----	0.011	-----	118	2	0.0048	0.0091	0.0069	2	2	100.0	
ANGLE 2 (DEG)	-0.011	-----	0.013	-----	118	2	0.0043	0.0075	0.0059	2	2	100.0	
RANGE (M)	-0.319	-----	16.913	-----	118	2	7.4190	8.4661	8.0312	2	2	99.2	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	

COMBINED STATISTICS SUMMARY FOR WL2F

STATION = WLPQ
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.000	-----	0.005	-----	116	2	0.0011	0.0019	0.0016	2	2	100.0	
ANGLE 2 (DEG)	0.004	-----	0.004	-----	118	2	0.0013	0.0015	0.0014	2	2	100.0	
RANGE (M)	-2.807	-----	14.125	-----	118	2	7.2123	8.4808	8.0167	2	2	98.3	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	2	0.0	

COMBINED STATISTICS SUMMARY FOR WLPQ

STATISTICS INTERVAL 2

STATION = AGO3 SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)			
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090316/184240	20090316/185030	0.031	0.013	31	100.0	-0.014	0.007	31	100.0	-----	0	0.0	-----	0	0.0 1
20090317/170330	20090317/170950	0.066	0.011	8	100.0	-0.028	0.011	16	100.0	-----	0	0.0	-----	0	0.0 1
20090317/183600	20090317/185140	0.040	0.034	42	90.5	-0.017	0.010	42	100.0	-----	0	0.0	-----	0	0.0 1
20090318/172810	20090318/173750	0.042	0.014	34	100.0	-0.019	0.010	34	100.0	-----	0	0.0	-----	0	0.0 1
20090318/190410	20090318/191350	-0.009	0.016	22	100.0	-0.008	0.016	28	100.0	-----	0	0.0	-----	0	0.0 1
20090319/162000	20090319/162910	0.035	0.016	11	100.0	-0.014	0.010	20	100.0	-----	0	0.0	-----	0	0.0 1
20090319/175500	20090319/180610	0.015	0.031	36	97.2	-0.012	0.013	36	100.0	-----	0	0.0	-----	0	0.0 1
20090320/164630	20090320/165720	0.028	0.018	37	100.0	-0.016	0.011	37	100.0	-----	0	0.0	-----	0	0.0 1
20090320/182310	20090320/183220	-0.032	0.026	20	100.0	-0.015	0.015	24	100.0	-----	0	0.0	-----	0	0.0 1
20090321/153910	20090321/154820	0.043	0.014	13	100.0	-0.014	0.009	23	100.0	-----	0	0.0	-----	0	0.0 1
20090321/171410	20090321/172450	0.029	0.027	37	100.0	-0.005	0.012	37	100.0	-----	0	0.0	-----	0	0.0 1
20090322/160730	20090322/161620	0.036	0.015	39	100.0	-0.006	0.014	39	100.0	-----	0	0.0	-----	0	0.0 1
20090322/174220	20090322/175120	-0.021	0.022	19	100.0	-0.007	0.007	19	100.0	-----	0	0.0	-----	0	0.0 1
20090323/145750	20090323/150720	0.069	0.019	17	94.1	-0.017	0.014	28	100.0	-----	0	0.0	-----	0	0.0 1
20090323/163550	20090323/164400	0.058	0.050	37	73.0 A	-0.010	0.020	37	100.0	-----	0	0.0	-----	0	0.0 1 Anomaly
20090324/152620	20090324/153520	0.048	0.013	40	100.0	-0.011	0.009	40	100.0	-----	0	0.0	-----	0	0.0 1
20090324/170310	20090324/171040	-0.020	0.013	11	100.0	-0.006	0.008	11	100.0	-----	0	0.0	-----	0	0.0 1

STATION = AGO3 SATELLITE = STS-119

RESIDUALS					VDNA NOISE					RATING				
MEAN	DEV	SD	RSS	PTS PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY			
ANGLE 1 (DEG)	0.029	0.055	0.025	0.047	454	17	0.0029	0.0231	0.0106	17	17	96.5		
ANGLE 2 (DEG)	-0.013	0.011	0.012	0.019	502	17	0.0026	0.0167	0.0082	17	17	100.0		
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	17	0.0		
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	17	0.0		

STATION = AGO3 SATELLITE = STS-119 SUMMARY

STATION = ANTQ SATELLITE = ISS

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)			
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090315/210306	20090315/211554	0.004	0.003	58	100.0	-0.004	0.006	58	100.0	-1.885	6.326	58	100.0	-----	0 0.0 0
20090315/223848	20090315/225036	0.005	0.002	41	100.0	-0.003	0.005	41	100.0	-2.425	8.166	41	100.0	-----	0 0.0 0
20090317/202342	20090317/203448	0.001	0.003	62	100.0	-0.008	0.004	62	100.0	-2.423	21.014	62	100.0	-----	0 0.0 0

STATION = ANTQ SATELLITE = ISS

RESIDUALS						VDNA NOISE						RATING																																	
MEAN		DEV		SD		RSS		PTS		PASSES		MIN		MAX		RMS		PASSES		TOTALPASSES		%USE		ANOMALY																					
ANGLE 1 (DEG)	0.003	-----		0.003		-----		161	3		-----		0.0012	0.0014		0.0013		3	3		100.0		-----																						
ANGLE 2 (DEG)	-0.005	-----		0.005		-----		161	3		-----		0.0013	0.0057		0.0040		3	3		100.0		-----																						
RANGE (M)	-2.230	-----		14.206		-----		161	3		-----		4.5078	8.6083		6.1131		3	3		100.0		-----																						
RANGE-RATE (M/S)	-----						0		0		-----		-----		-----		0		3		0.0		-----																						
STATION = ANTQ	SATELLITE = ISS	SUMMARY																						-----																					
STATION = ANTQ	SATELLITE = STS-119	ANGLE 1 RESIDUALS (DEG)																						-----																					
		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A																					
20090317/220012	20090317/220924	0.005	0.002		31		100.0		-----		-0.001		0.008		31		100.0		4.080		6.238		31		100.0																				
STATION = ANTQ	SATELLITE = STS-119	ANGLE 2 RESIDUALS (DEG)																						-----																					
		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A																					
STATION = ANTQ	SATELLITE = STS-119	RANGE RESIDUALS (M)																						-----																					
		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A																					
STATION = ANTQ	SATELLITE = STS-119	RANGE-RATE RESIDUALS (M/S)																						-----																					
		MEAN		SD		PTS		A M		ANOMALY C		0		0.0		0		0		0.0		0		0.0																					
STATION = ANTQ	SATELLITE = STS-119	SUMMARY																						-----																					
STATION = ASCQ	SATELLITE = ISS	ANGLE 1 RESIDUALS (DEG)																						-----																					
		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A		MEAN		SD		PTS		%USE A																					
20090315/162100	20090315/163148	0.002	0.005		41		100.0		-----		0.010		0.006		41		100.0		3.803		14.491		41		100.0																				
20090315/175618	20090315/180736	-0.001	0.005		51		100.0		-----		0.010		0.006		51		100.0		5.682		17.247		51		98.0																				
20090316/164730	20090316/170000	0.001	0.004		65		100.0		-----		0.002		0.004		69		100.0		9.381		10.478		69		100.0																				
20090317/055206	20090317/060324	-0.000	0.002		64		100.0		-----		0.007		0.005		64		100.0		6.270		15.406		64		100.0																				
20090317/154006	20090317/155148	0.003	0.004		50		100.0		-----		-0.003		0.007		50		100.0		6.611		17.052		50		98.0																				
20090317/171506	20090317/172606	-0.000	0.005		48		100.0		-----		0.012		0.008		48		100.0		1.674		14.318		48		100.0																				
STATION = ASCQ	SATELLITE = ISS	RESIDUALS																						-----																					
		MEAN		DEV		SD		RSS		PTS		PASSES		MIN		MAX		RMS		PASSES		TOTALPASSES		%USE		ANOMALY																			
ANGLE 1 (DEG)	0.001	0.004		0.004		0.005		319		6		-----		0.0004		0.0037		0.0025		6		6		100.0		-----																			
ANGLE 2 (DEG)	0.006	0.014		0.006		0.011		323		6		-----		0.0004		0.0043		0.0029		6		6		100.0		-----																			

RANGE (M)	5.898	6.849	14.815	16.309	323	6	7.6611	17.6598	13.6348	6	6	99.4
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	6	0.0

STATION = ASCQ SATELLITE = ISS SUMMARY

STATION = ASCQ SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)					
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C		
20090316/172206	20090316/173218	0.001	0.005	47	100.0	0.013	0.005	47	100.0	-3.518	10.507	47	100.0	-----	-----	0	0.0 0

STATION = ASCQ SATELLITE = STS-119

RESIDUALS					VDNA NOISE					RATING													
MEAN	DEV	SD	RSS	PTS PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY	MEAN	SD	PTS	%USE A M ANOMALY C								
ANGLE 1 (DEG)	0.001	-----	0.005	47 1	0.0018	0.0018	0.0018	1	1	1	100.0	ANGLE 2 (DEG)	0.013	-----	0.005	47 1	0.0012	0.0012	0.0012	1	1	1	100.0
RANGE (M)	-3.518	-----	10.507	47 1	5.1062	5.1062	5.1062	1	1	1	100.0	RANGE-RATE (M/S)	-----	-----	-----	0 0	-----	-----	-----	0	0.0	0	

STATION = ASCQ SATELLITE = STS-119 SUMMARY

STATION = EAFF SATELLITE = ISS

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)					
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C		
20090316/014512	20090316/015600	0.006	0.009	54	100.0	-0.000	0.006	54	100.0	-1.350	23.546	54	98.1	-----	-----	0	0.0 0
20090316/031954	20090316/033130	0.000	0.006	63	100.0	-0.005	0.011	63	100.0	1.078	17.255	63	98.4	-----	-----	0	0.0 0
20090316/094554	20090316/095730	-0.001	0.006	67	100.0	-0.004	0.007	67	100.0	5.283	19.621	66	97.0	-----	-----	0	0.0 0
20090316/112142	20090316/113106	0.003	0.011	29	100.0	-0.000	0.006	29	100.0	8.596	18.289	29	100.0	-----	-----	0	0.0 0
20090317/021130	20090317/022330	-0.005	0.015	62	100.0	-0.003	0.008	68	100.0	0.889	16.182	68	98.5	-----	-----	0	0.0 0
20090317/083742	20090317/084842	-0.004	0.008	55	100.0	-0.004	0.009	55	100.0	12.229	24.073	55	90.9	-----	-----	0	0.0 0

STATION = EAFF SATELLITE = ISS SUMMARY

RESIDUALS					VDNA NOISE					RATING															
MEAN	DEV	SD	RSS	PTS PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY	MEAN	SD	PTS	%USE A M ANOMALY C										
ANGLE 1 (DEG)	-0.001	0.011	0.010	0.011	330	6	0.0050	0.0113	0.0071	6	6	100.0	ANGLE 2 (DEG)	-0.003	0.005	0.008	0.009	336	6	0.0049	0.0063	0.0055	6	6	100.0
RANGE (M)	3.958	13.045	19.960	21.368	335	6	12.6056	19.2360	15.8974	6	6	97.0	RANGE-RATE (M/S)	-----	-----	-----	0 0	-----	-----	-----	0	0.0	0		

STATION = EAFF SATELLITE = ISS SUMMARY

STATION = EAFF SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)					ANGLE 2 RESIDUALS (DEG)					RANGE RESIDUALS (M)					RANGE-RATE RESIDUALS (M/S)						
	MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A	M	ANOMALY C
20090317/102300	20090317/103212	0.002	0.008	41 100.0	0.000	0.010	41 100.0	4.919	8.572	41 100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090318/010354	20090318/011506	0.007	0.009	59 100.0	-0.003	0.008	59 100.0	9.899	25.224	59 89.8	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090318/104054	20090318/104954	0.013	0.015	5 100.0	0.000	0.006	5 100.0	-19.822	11.403	5 100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090320/002242	20090320/003406	0.007	0.007	61 100.0	0.001	0.014	61 100.0	-3.222	18.761	61 100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090320/231648	20090320/233854	0.008	0.013	15 100.0	0.006	0.012	15 100.0	-8.942	20.900	15 93.3	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090321/085100	20090321/090154	0.004	0.005	57 100.0	0.003	0.007	57 100.0	-3.390	20.072	57 98.2	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090321/234142	20090321/235312	0.006	0.007	64 100.0	0.003	0.007	64 100.0	-0.207	26.452	64 95.3	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090323/081024	20090323/082112	0.007	0.012	53 100.0	-0.003	0.009	53 100.0	3.808	21.799	53 98.1	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090323/230042	20090323/231218	0.007	0.009	66 100.0	-0.003	0.006	66 100.0	-1.440	18.977	66 98.5	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090324/215324	20090324/220330	0.008	0.011	41 100.0	0.008	0.005	41 100.0	5.164	17.981	41 97.6	-----	-----	-----	-----	0	0.0	0	0.0	0	0	

STATION = EAFF SATELLITE = STS-119

RESIDUALS					VDNA NOISE					RATING						MEAN	SD	PTS	%USE A	M	ANOMALY C
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY		MEAN	SD	PTS	%USE A	M	ANOMALY C	
ANGLE 1 (DEG)	0.006	0.004	0.009	0.011	462	10	0.0022	0.0137	0.0063	10	10	100.0	-----	-----	-----	-----	0	0.0	0	0.0	0
ANGLE 2 (DEG)	0.001	0.008	0.009	0.010	462	10	0.0029	0.0136	0.0050	10	10	100.0	-----	-----	-----	-----	0	0.0	0	0.0	0
RANGE (M)	1.013	12.527	20.786	21.733	462	10	4.8630	16.4087	11.7824	10	10	97.0	-----	-----	-----	-----	0	0.0	0	0.0	0
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	10	0.0	-----	-----	-----	-----	0	0.0	0	0.0	0

STATION = EAFF SATELLITE = STS-119 SUMMARY

STATION = FRCF SATELLITE = ISS

ANGLE 1 RESIDUALS (DEG)					ANGLE 2 RESIDUALS (DEG)					RANGE RESIDUALS (M)					RANGE-RATE RESIDUALS (M/S)						
	MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A	M	ANOMALY C
20090315/025224	20090315/030424	-0.007	0.009	68 100.0	0.002	0.008	68 100.0	0.596	13.666	68 98.5	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090315/042848	20090315/043924	-0.009	0.007	43 100.0	-0.008	0.010	43 100.0	4.110	21.786	43 100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090315/091854	20090315/092936	-0.003	0.010	52 100.0	0.003	0.014	52 100.0	7.250	23.588	52 96.2	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090315/105354	20090315/110530	-0.002	0.008	65 100.0	0.006	0.010	65 100.0	2.510	18.589	65 98.5	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090316/081100	20090316/082018	-0.000	0.009	17 100.0	-0.004	0.015	17 100.0	4.725	20.383	17 100.0	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090317/034800	20090317/035818	-0.008	0.011	39 100.0	-0.016	0.016	39 100.0	11.056	23.055	39 97.4	-----	-----	-----	-----	0	0.0	0	0.0	0	0	
20090317/101254	20090317/102424	0.001	0.007	63 100.0	0.002	0.010	63 100.0	-5.726	24.086	63 96.8	-----	-----	-----	-----	0	0.0	0	0.0	0	0	

STATION = FRCF SATELLITE = ISS SUMMARY

RESIDUALS					VDNA NOISE					RATING						MEAN	SD	PTS	%USE A	M	ANOMALY C
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY		MEAN	SD	PTS	%USE A	M	ANOMALY C	
ANGLE 1 (DEG)	-0.004	0.009	0.009	0.011	347	7	0.0044	0.0115	0.0065	7	7	100.0	-----	-----	-----	-----	0	0.0	0	0.0	0
ANGLE 2 (DEG)	-0.001	0.018	0.011	0.015	347	7	0.0064	0.0142	0.0100	7	7	100.0	-----	-----	-----	-----	0	0.0	0	0.0	0
RANGE (M)	2.617	13.256	20.705	21.897	347	7	12.8557	23.6165	17.8628	7	7	98.0	-----	-----	-----	-----	0	0.0	0	0.0	0
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	7	0.0	-----	-----	-----	-----	0	0.0	0	0.0	0

STATION = FRCF SATELLITE = ISS SUMMARY

STATION = FRCF SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)			
MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090316/024224	20090316/025118	-0.002	0.006	39	100.0	0.005	0.006	41	100.0	1.453	9.421	41	100.0	-----	0 0.0 0
20090316/085800	20090316/090724	-0.006	0.008	31	100.0	0.002	0.011	31	100.0	4.330	8.320	31	100.0	-----	0 0.0 0
20090316/103100	20090316/104042	0.001	0.010	48	100.0	0.002	0.013	48	100.0	0.920	10.759	47	97.9	-----	0 0.0 0
20090317/023212	20090317/024254	-0.009	0.012	55	100.0	-0.006	0.018	55	100.0	5.542	11.876	55	100.0	-----	0 0.0 0
20090317/084954	20090317/085912	-0.006	0.009	41	100.0	0.002	0.015	41	100.0	-4.942	10.719	41	100.0	-----	0 0.0 0
20090318/023900	20090318/025024	-0.004	0.006	61	100.0	-0.006	0.013	61	100.0	-1.497	18.899	61	100.0	-----	0 0.0 0
20090318/072942	20090318/073930	-0.000	0.008	26	100.0	0.005	0.025	26	96.2	6.504	14.340	26	100.0	-----	0 0.0 0
20090318/090442	20090318/091624	-0.002	0.007	67	100.0	0.002	0.007	67	100.0	10.162	20.151	67	95.5	-----	0 0.0 0
20090319/013024	20090319/014224	0.001	0.005	63	100.0	-0.001	0.008	68	100.0	7.695	27.966	68	95.6	-----	0 0.0 0
20090319/030706	20090319/031712	-0.004	0.010	34	100.0	-0.017	0.012	34	100.0	2.708	22.069	34	94.1	-----	0 0.0 0
20090319/075648	20090319/080748	-0.005	0.005	57	100.0	0.003	0.010	57	100.0	3.883	13.663	57	100.0	-----	0 0.0 0
20090319/093200	20090319/094306	-0.002	0.006	60	100.0	0.005	0.007	60	100.0	6.298	17.401	60	100.0	-----	0 0.0 0
20090320/015812	20090320/020918	-0.006	0.007	58	100.0	-0.001	0.012	58	100.0	-2.596	21.782	58	96.6	-----	0 0.0 0
20090320/064906	20090320/065848	-0.008	0.007	33	100.0	-0.005	0.011	33	100.0	5.788	16.292	33	100.0	-----	0 0.0 0
20090320/082342	20090320/083524	-0.007	0.005	62	100.0	0.001	0.007	67	100.0	5.224	20.449	67	98.5	-----	0 0.0 0
20090320/231542	20090320/232254	-----	0 0.0 A	-----	-----	0 0.0 A	-----	0 0.0 A	-----	0 0.0 A	-----	0 0.0 A	-----	0 0.0 0	
20090321/004924	20090321/010124	-0.011	0.010	68	100.0	0.004	0.008	68	100.0	4.068	20.095	68	98.5	-----	0 0.0 0
20090321/022630	20090321/023606	-0.008	0.006	27	100.0	-0.005	0.014	27	100.0	8.014	17.675	27	100.0	-----	0 0.0 0
20090321/071524	20090321/072648	-0.005	0.009	60	100.0	0.016	0.022	60	96.7	1.263	19.745	60	98.3	-----	0 0.0 0
20090322/011724	20090322/012812	-0.008	0.006	55	100.0	-0.005	0.009	55	100.0	0.137	17.435	55	100.0	-----	0 0.0 0
20090322/060742	20090322/061806	-0.007	0.007	38	100.0	0.002	0.011	38	100.0	-0.533	11.687	38	100.0	-----	0 0.0 0
20090322/074242	20090322/075424	-0.003	0.008	63	100.0	0.003	0.008	68	100.0	10.088	19.050	68	95.6	-----	0 0.0 0
20090322/223442	20090322/224436	0.014	0.010	32	100.0	0.008	0.018	32	100.0	-1.631	15.506	32	100.0	-----	0 0.0 0
20090323/000842	20090323/002036	-0.016	0.010	67	100.0	0.000	0.008	67	100.0	1.620	18.660	67	100.0	-----	0 0.0 0
20090323/014542	20090323/015518	-0.005	0.006	18	100.0	-0.010	0.009	18	100.0	1.798	10.840	18	100.0	-----	0 0.0 0
20090323/063424	20090323/064618	-0.009	0.007	62	100.0	0.004	0.014	62	100.0	1.345	20.405	62	100.0	-----	0 0.0 0
20090324/003630	20090324/004724	-0.004	0.008	53	100.0	-0.003	0.013	53	100.0	1.935	13.966	53	100.0	-----	0 0.0 0
20090324/052642	20090324/053718	-0.004	0.007	43	100.0	-0.005	0.010	43	100.0	7.650	17.728	43	97.7	-----	0 0.0 0
20090324/070130	20090324/071336	-0.006	0.006	67	100.0	-0.000	0.008	67	100.0	9.084	16.834	67	95.5	-----	0 0.0 0

STATION = FRCF SATELLITE = STS-119

RESIDUALS				VDNA NOISE				RATING				
MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.005	0.010	0.008	0.011	1388	28	0.0018	0.0098	0.0045	28	29	98.9
ANGLE 2 (DEG)	0.001	0.012	0.012	0.013	1405	28	0.0030	0.0124	0.0062	28	29	98.7
RANGE (M)	3.673	8.274	17.888	18.724	1404	28	3.5909	16.2340	10.7959	28	29	97.5
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	29	0.0

STATION = FRCF SATELLITE = STS-119 SUMMARY

STATION = KMRF SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)						ANGLE 2 RESIDUALS (DEG)						RANGE RESIDUALS (M)						RANGE-RATE RESIDUALS (M/S)					
	MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A	M	ANOMALY C		
20090317/162712	20090317/163842	0.002	0.015	52	100.0	-0.022	0.039	52	96.2	-0.080	7.033	52	100.0	-	-	-	-	-	0	0.0	0		

STATION = KMRF SATELLITE = STS-119

RESIDUALS						VDNA NOISE						RATING							
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES		%USE	ANOMALY				
ANGLE 1 (DEG)	0.002	-----	0.015	-----	52	1	0.0118	0.0118	0.0118	1	1	1	100.0						
ANGLE 2 (DEG)	-0.022	-----	0.039	-----	52	1	0.0195	0.0195	0.0195	1	1	1	96.2						
RANGE (M)	-0.080	-----	7.033	-----	52	1	4.3301	4.3301	4.3301	1	1	1	100.0						
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	0	1	0.0						

STATION = KMRF SATELLITE = STS-119 SUMMARY

STATION = MIL3 SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)						ANGLE 2 RESIDUALS (DEG)						RANGE RESIDUALS (M)						RANGE-RATE RESIDUALS (M/S)					
	MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A		MEAN	SD	PTS	%USE A	M	ANOMALY C		
20090316/073300	20090316/074300	0.021	0.008	10	100.0	-0.008	0.006	14	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090316/090620	20090316/091420	0.012	0.009	7	100.0	0.007	0.005	7	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090316/233210	20090316/234300	0.010	0.026	25	96.0	-0.010	0.013	25	96.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090317/072440	20090317/073430	0.010	0.017	14	100.0	-0.005	0.006	15	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090317/215200	20090317/221000	-0.021	0.020	17	76.5	-0.040	0.022	20	85.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090317/233400	20090317/234520	-0.004	0.014	21	100.0	-0.033	0.016	31	83.9	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090321/054910	20090321/055940	-0.003	0.016	19	100.0	-0.003	0.009	19	100.0	-	-----	-----	0	0.0	-	-----	-----	0	100.0	1			
20090321/072400	20090321/073310	0.007	0.000	1	100.0	-0.008	0.000	1	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090321/221230	20090321/222300	0.022	0.011	16	100.0	0.002	0.011	24	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090322/044000	20090322/045100	0.027	0.051	14	50.0 A	-0.010	0.022	17	94.1	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1 Anomaly			
20090322/061500	20090322/062710	0.005	0.010	25	100.0	-0.006	0.009	35	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090322/210300	20090322/211540	0.002	0.020	40	100.0	-0.017	0.009	40	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090323/050700	20090323/051910	0.026	0.018	32	90.6	-0.008	0.008	32	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090323/195620	20090323/200710	-----	-----	0	0.0	-0.013	0.012	8	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090323/213120	20090323/214230	-0.017	0.017	14	100.0	-0.008	0.009	15	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090324/035910	20090324/041010	0.047	0.035	14	50.0 A	-0.008	0.009	16	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1 Anomaly			
20090324/053440	20090324/054540	-0.007	0.029	24	91.7	-0.006	0.011	29	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			
20090324/202210	20090324/203440	0.013	0.029	24	91.7	-0.010	0.006	24	100.0	-	-----	-----	0	0.0	-	-----	-----	0	0.0	1			

STATION = MIL3 SATELLITE = STS-119

RESIDUALS						VDNA NOISE						RATING							
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES		%USE	ANOMALY				
ANGLE 1 (DEG)	0.008	0.034	0.023	0.030	317	17	0.0058	0.0504	0.0150	18	18	18	91.8						
ANGLE 2 (DEG)	-0.012	0.024	0.012	0.020	372	18	0.0016	0.0106	0.0065	18	18	18	97.3						
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	0	18	0.0						

RANGE-RATE (M/S) ----- 0 0 ----- 0 18 100.0

STATION = MIL3 SATELLITE = STS-119 SUMMARY

STATION = MILA SATELLITE = STS-119

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)						
	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C		
20090318/060300	20090318/061140	0.019	0.016	12	100.0	-0.009	0.010	12	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090318/073700	20090318/074840	-0.005	0.012	26	100.0	0.000	0.008	26	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090318/222500	20090318/223730	0.016	0.017	41	100.0	-0.011	0.006	41	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090319/000200	20090319/001210	-----	0	0.0	-----	0	0.0	-----	0	0.0	-----	0	0.0	-----	0	0.0	1	
20090319/063120	20090319/063850	-0.004	0.022	35	97.1	-0.009	0.007	35	100.0	1.775	3.819	31	100.0	0.006	0.016	35	100.0	2
20090319/080500	20090319/081510	-0.062	0.017	9	33.3 A	0.010	0.002	9	100.0	-----	-----	0	0.0	-----	0	0.0	1 Anomaly	
20090319/211940	20090319/212900	-0.010	0.012	19	100.0	-0.002	0.012	28	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090319/225300	20090319/230410	0.019	0.008	19	100.0	-0.010	0.007	19	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090320/052110	20090320/053030	-0.007	0.012	18	100.0	-0.020	0.006	18	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090320/065600	20090320/070740	-0.036	0.012	21	90.5	-0.002	0.010	21	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090320/214410	20090320/215630	0.017	0.018	39	97.4	-0.003	0.010	39	100.0	-----	-----	0	0.0	-----	0	0.0	1	
20090321/203600	20090321/204810	0.010	0.010	23	100.0	-0.006	0.011	32	100.0	-----	-----	0	0.0	-----	0	0.0	1	

STATION = MILA SATELLITE = STS-119

RESIDUALS						VDNA NOISE						RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY				
ANGLE 1 (DEG)	0.001	0.046	0.016	0.028	262	11	0.0055	0.0185	0.0093	11	12	96.2					
ANGLE 2 (DEG)	-0.006	0.014	0.009	0.013	280	11	0.0022	0.0119	0.0072	11	12	100.0					
RANGE (M)	1.775	-----	3.819	-----	31	1	1.3892	1.3892	1.3892	1	12	100.0					
RANGE-RATE (M/S)	0.006	-----	0.016	-----	35	1	0.0012	0.0012	0.0012	1	12	100.0					

STATION = MILA SATELLITE = STS-119 SUMMARY

STATION = WL2F SATELLITE = ISS

ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)					
	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C	
20090314/234942	20090314/235954	0.005	0.010	61	100.0	0.009	0.009	61	100.0	10.487	12.620	61	100.0	-----	0	0.0	0
20090315/012454	20090315/013718	0.000	0.015	60	100.0	-0.004	0.013	60	100.0	-3.406	10.030	60	100.0	-----	0	0.0	0
20090315/030206	20090315/031242	0.003	0.018	13	100.0	-0.006	0.021	13	100.0	-10.562	17.840	13	100.0	-----	0	0.0	0
20090315/061424	20090315/062618	-0.000	0.011	56	100.0	0.003	0.014	56	100.0	3.476	17.412	56	100.0	-----	0	0.0	0
20090315/074936	20090315/080136	0.002	0.011	65	100.0	0.001	0.013	65	100.0	4.507	13.689	65	100.0	-----	0	0.0	0
20090315/224206	20090315/225242	0.009	0.016	20	100.0	0.017	0.016	20	100.0	1.383	15.336	20	100.0	-----	0	0.0	0
20090316/230824	20090316/231948	0.004	0.010	63	100.0	0.005	0.013	63	100.0	-3.008	11.670	63	100.0	-----	0	0.0	0
20090317/004354	20090317/005512	0.003	0.012	60	100.0	-0.007	0.014	60	100.0	11.418	14.172	60	100.0	-----	0	0.0	0
20090317/053324	20090317/054518	0.003	0.014	57	100.0	0.004	0.016	57	100.0	11.027	10.640	57	100.0	-----	0	0.0	0
20090317/070824	20090317/072036	0.005	0.018	64	100.0	0.001	0.016	64	100.0	-4.904	13.268	64	100.0	-----	0	0.0	0

STATION = WL2F SATELLITE = ISS																
RESIDUALS						VDNA NOISE					RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY			
ANGLE 1 (DEG)	0.003	0.005	0.013	0.014	519	10	0.0080	0.0226	0.0118	10	10	100.0				
ANGLE 2 (DEG)	0.002	0.013	0.014	0.016	519	10	0.0078	0.0221	0.0118	10	10	100.0				
RANGE (M)	3.128	15.760	13.310	15.781	519	10	9.4647	16.5704	11.4652	10	10	100.0				
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	10	0.0				
STATION = WL2F SATELLITE = ISS SUMMARY																
STATION = WL2F SATELLITE = STS-119																
ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)			RANGE-RATE RESIDUALS (M/S)					
	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090316/233342	20090316/234424	0.004	0.011	50 100.0	0.012	0.014	50 100.0	-0.159	6.687	50 100.0	-----	-----	0	0.0	0	
20090317/010812	20090317/011718	0.004	0.012	32 100.0	-0.007	0.016	32 100.0	1.083	6.906	32 100.0	-----	-----	0	0.0	0	
20090317/220100	20090317/221206	0.009	0.016	35 100.0	0.010	0.014	35 100.0	1.725	8.088	35 100.0	-----	-----	0	0.0	0	
20090317/233524	20090317/234836	-0.001	0.010	68 100.0	-0.007	0.009	68 100.0	8.110	15.498	68 100.0	-----	-----	0	0.0	0	
20090318/011206	20090318/012300	0.004	0.016	39 100.0	-0.009	0.015	39 100.0	4.719	15.558	39 100.0	-----	-----	0	0.0	0	
20090318/042506	20090318/043642	0.000	0.016	41 100.0	-0.005	0.016	41 100.0	-0.602	10.682	41 100.0	-----	-----	0	0.0	0	
20090318/060024	20090318/061224	-0.003	0.011	68 100.0	-0.007	0.014	68 100.0	3.131	16.975	68 100.0	-----	-----	0	0.0	0	
20090318/073612	20090318/074706	0.007	0.021	25 100.0	-0.004	0.018	25 100.0	0.916	15.662	25 100.0	-----	-----	0	0.0	0	
20090319/212000	20090319/213112	0.001	0.014	42 100.0	0.012	0.015	42 100.0	-0.764	12.949	42 100.0	-----	-----	0	0.0	0	
20090319/225354	20090319/230654	-0.000	0.010	67 100.0	-0.002	0.013	67 100.0	3.776	14.435	67 100.0	-----	-----	0	0.0	0	
20090320/003054	20090320/004142	0.003	0.021	33 100.0	0.000	0.021	33 100.0	2.250	13.221	33 100.0	-----	-----	0	0.0	0	
20090320/034418	20090320/035518	-0.001	0.018	44 100.0	0.002	0.017	44 100.0	-11.729	16.097	44 100.0	-----	-----	0	0.0	0	
20090320/051924	20090320/053142	0.001	0.013	63 100.0	-0.001	0.012	68 100.0	4.068	14.334	68 100.0	-----	-----	0	0.0	0	
20090321/203800	20090321/205024	0.011	0.013	49 100.0	0.011	0.013	49 100.0	4.174	14.669	49 100.0	-----	-----	0	0.0	0	
20090321/221306	20090321/222606	-0.001	0.010	65 100.0	-0.007	0.009	65 100.0	7.555	11.123	65 100.0	-----	-----	0	0.0	0	
20090321/235012	20090322/000042	0.002	0.010	31 100.0	-0.009	0.010	31 100.0	-1.336	9.000	31 100.0	-----	-----	0	0.0	0	
20090322/030306	20090322/031500	-0.000	0.015	47 100.0	-0.004	0.015	47 100.0	2.942	10.470	47 100.0	-----	-----	0	0.0	0	
20090322/043806	20090322/052206	0.003	0.012	60 100.0	-0.010	0.015	66 100.0	8.303	9.099	66 100.0	-----	-----	0	0.0	0	
20090323/195736	20090323/200948	0.010	0.012	54 100.0	0.007	0.015	54 100.0	-0.092	9.734	54 100.0	-----	-----	0	0.0	0	
20090323/213218	20090323/214512	-0.003	0.008	66 100.0	-0.009	0.009	66 100.0	2.884	12.674	66 100.0	-----	-----	0	0.0	0	
20090323/230918	20090323/232006	0.001	0.018	28 100.0	-0.013	0.016	28 100.0	-3.338	9.118	28 100.0	-----	-----	0	0.0	0	
20090324/022218	20090324/023400	0.006	0.011	50 100.0	-0.014	0.015	50 100.0	-4.894	13.407	50 100.0	-----	-----	0	0.0	0	
20090324/035736	20090324/041012	0.001	0.011	68 100.0	-0.008	0.011	68 100.0	3.045	19.074	68 98.5	-----	-----	0	0.0	0	
STATION = WL2F SATELLITE = STS-119																
RESIDUALS						VDNA NOISE					RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY			
ANGLE 1 (DEG)	0.002	0.008	0.013	0.014	1125	23	0.0026	0.0218	0.0102	23	23	100.0				
ANGLE 2 (DEG)	-0.003	0.016	0.014	0.016	1136	23	0.0033	0.0226	0.0098	23	23	100.0				
RANGE (M)	2.187	9.192	13.205	14.152	1136	23	2.9716	15.1569	8.3513	23	23	99.9				
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	23	0.0				

STATION = WL2F SATELLITE = STS-119 SUMMARY

		ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)			
		MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090316/001624	20090316/002924	-0.000	0.005	66	100.0	0.005	0.005	69	100.0	2.886	13.354	69	100.0	-----	-----	-----	0 0.0 0
20090316/015600	20090316/020412	-0.003	0.003	42	100.0	0.010	0.004	42	100.0	-5.968	12.674	42	97.6	-----	-----	-----	0 0.0 0
20090316/050612	20090316/051736	-0.001	0.003	36	100.0	0.014	0.003	36	100.0	-4.332	10.425	36	100.0	-----	-----	-----	0 0.0 0
20090316/064118	20090316/065412	0.001	0.006	67	100.0	0.010	0.003	67	100.0	1.735	16.194	67	98.5	-----	-----	-----	0 0.0 0
20090316/081718	20090316/082848	-0.002	0.003	37	100.0	0.007	0.003	37	100.0	1.163	14.953	37	100.0	-----	-----	-----	0 0.0 0

		RESIDUALS					VDNA NOISE					RATING					
		MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY			
ANGLE 1 (DEG)		-0.001	0.004	0.005	0.005	248	5	0.0021	0.0031	0.0026	5	5	100.0				
ANGLE 2 (DEG)		0.009	0.009	0.004	0.011	251	5	0.0013	0.0031	0.0021	5	5	100.0				
RANGE (M)		-0.192	10.710	13.950	14.944	251	5	10.6116	13.9374	12.0236	5	5	99.2				
RANGE-RATE (M/S)		-----	-----	-----	-----	0	0	-----	-----	-----	0	5	0.0				

STATION = WLPQ SATELLITE = ISS SUMMARY

		ANGLE 1 RESIDUALS (DEG)				ANGLE 2 RESIDUALS (DEG)				RANGE RESIDUALS (M)				RANGE-RATE RESIDUALS (M/S)			
		MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A	MEAN	SD	PTS	%USE A M ANOMALY C
20090316/011818	20090316/012724	-0.002	0.002	24	100.0	0.010	0.004	24	100.0	-10.883	10.150	24	100.0	-----	-----	-----	0 0.0 0
20090316/055836	20090316/060900	-0.001	0.004	39	100.0	0.010	0.003	39	100.0	-0.382	5.159	39	100.0	-----	-----	-----	0 0.0 0
20090316/073118	20090316/074218	-0.000	0.003	48	100.0	0.004	0.003	48	100.0	-0.023	8.919	48	100.0	-----	-----	-----	0 0.0 0
20090317/054942	20090317/060012	-0.001	0.004	46	100.0	0.011	0.003	46	100.0	-1.623	6.849	46	100.0	-----	-----	-----	0 0.0 0
20090317/072300	20090317/073300	-0.002	0.004	41	100.0	0.003	0.002	41	100.0	-3.232	7.367	41	100.0	-----	-----	-----	0 0.0 0
20090318/222700	20090318/224036	-0.000	0.003	66	100.0	0.005	0.004	66	100.0	7.969	25.323	66	89.4	-----	-----	-----	0 0.0 0
20090319/000336	20090319/001524	-0.003	0.003	58	100.0	0.005	0.002	58	100.0	-13.768	16.231	58	98.3	-----	-----	-----	0 0.0 0
20090319/031654	20090319/032730	-0.004	0.002	4	100.0	0.009	0.003	4	100.0	10.162	21.703	4	100.0	-----	-----	-----	0 0.0 0
20090319/045218	20090319/050442	-0.003	0.004	60	100.0	0.006	0.003	60	100.0	3.335	11.611	60	100.0	-----	-----	-----	0 0.0 0
20090319/062748	20090319/064012	-0.001	0.002	62	100.0	0.004	0.003	62	100.0	2.907	14.456	62	100.0	-----	-----	-----	0 0.0 0
20090320/214612	20090320/215954	0.000	0.005	67	100.0	0.004	0.005	67	100.0	2.869	16.307	67	100.0	-----	-----	-----	0 0.0 0
20090320/232206	20090320/233424	-0.003	0.003	55	100.0	0.006	0.003	55	100.0	-6.816	16.277	55	100.0	-----	-----	-----	0 0.0 0
20090321/023554	20090321/024648	-0.003	0.004	16	100.0	0.007	0.003	16	100.0	3.450	13.191	16	100.0	-----	-----	-----	0 0.0 0
20090321/041118	20090321/042354	-0.001	0.003	62	100.0	0.004	0.002	62	100.0	-4.755	13.160	62	100.0	-----	-----	-----	0 0.0 0
20090321/054636	20090321/055918	-0.002	0.003	59	100.0	-0.000	0.002	59	100.0	-3.517	14.137	59	100.0	-----	-----	-----	0 0.0 0
20090322/210518	20090322/211830	0.002	0.006	68	100.0	0.004	0.004	68	100.0	8.342	12.708	68	100.0	-----	-----	-----	0 0.0 0
20090322/224130	20090322/225412	-0.004	0.002	53	100.0	0.006	0.002	53	100.0	9.017	15.425	53	100.0	-----	-----	-----	0 0.0 0
20090323/015512	20090323/020554	-0.003	0.002	22	100.0	0.003	0.003	22	100.0	-8.949	11.866	22	100.0	-----	-----	-----	0 0.0 0
20090323/033018	20090323/034300	-0.001	0.003	63	100.0	0.001	0.002	63	100.0	-1.996	14.386	63	100.0	-----	-----	-----	0 0.0 0

20090323/050554	20090323/051824	-0.002	0.003	56	100.0	0.001	0.002	56	100.0	-7.775	14.694	56	100.0	-----	-----	0	0.0	0
20090324/202400	20090324/203718	0.001	0.007	66	100.0	0.005	0.004	68	100.0	1.169	13.971	68	98.5	-----	-----	0	0.0	0
20090324/220012	20090324/221212	-0.002	0.002	50	100.0	0.002	0.003	50	100.0	-8.215	14.333	50	98.0	-----	-----	0	0.0	0

STATION = WLPQ SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.001	0.003	0.004	0.004	1085	22		0.0008	0.0037	0.0018	22	22	100.0	
ANGLE 2 (DEG)	0.004	0.006	0.003	0.006	1087	22		0.0008	0.0043	0.0015	22	22	100.0	
RANGE (M)	-0.929	13.325	14.400	15.894	1087	22		2.0693	29.2244	9.3976	22	22	99.1	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0		-----	-----	-----	0	22	0.0	

STATION = WLPQ SATELLITE = STS-119 SUMMARY

COMBINED STATISTICS FOR EACH STATION

STATION = AGO3

SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.029	0.055	0.025	0.047	454	17		0.0029	0.0231	0.0106	17	17	96.5	
ANGLE 2 (DEG)	-0.013	0.011	0.012	0.019	502	17		0.0026	0.0167	0.0082	17	17	100.0	
RANGE (M)	-----	-----	-----	-----	0	0		-----	-----	-----	0	17	0.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0		-----	-----	-----	0	17	0.0	

COMBINED STATISTICS SUMMARY FOR AGO3

STATION = ANTQ

SATELLITE = ISS

SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING					
	MEAN	DEV	SD	RSS	PTS	PASSES		MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.003	0.006	0.003	0.005	192	4		0.0008	0.0014	0.0012	4	4	100.0	
ANGLE 2 (DEG)	-0.005	0.009	0.006	0.009	192	4		0.0013	0.0057	0.0040	4	4	100.0	
RANGE (M)	-1.211	8.575	13.259	13.988	192	4		2.5367	8.6083	5.7689	4	4	100.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0		-----	-----	-----	0	4	0.0	

COMBINED STATISTICS SUMMARY FOR ANTQ

STATION = ASCQ
 SATELLITE = ISS
 SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.001	0.003	0.004	0.005	366	7	0.0004	0.0037	0.0025	7	7	100.0	
ANGLE 2 (DEG)	0.007	0.014	0.006	0.011	370	7	0.0004	0.0043	0.0028	7	7	100.0	
RANGE (M)	4.702	10.235	14.341	15.936	370	7	5.1062	17.6598	12.9102	7	7	99.5	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	7	0.0	

COMBINED STATISTICS SUMMARY FOR ASCQ

STATION = EAFF
 SATELLITE = ISS
 SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.003	0.010	0.009	0.011	792	16	0.0022	0.0137	0.0067	16	16	100.0	
ANGLE 2 (DEG)	-0.001	0.008	0.009	0.009	798	16	0.0029	0.0136	0.0052	16	16	100.0	
RANGE (M)	2.251	11.464	20.442	21.349	797	16	4.8630	19.2360	13.8236	16	16	97.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	16	0.0	

COMBINED STATISTICS SUMMARY FOR EAFF

STATION = FRCF
 SATELLITE = ISS
 SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.005	0.009	0.008	0.010	1735	35	0.0018	0.0115	0.0050	35	36	99.1	
ANGLE 2 (DEG)	0.000	0.012	0.012	0.013	1752	35	0.0030	0.0142	0.0073	35	36	99.0	
RANGE (M)	3.464	8.545	18.480	19.282	1751	35	3.5909	23.6165	12.6782	35	36	97.6	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	36	0.0	

COMBINED STATISTICS SUMMARY FOR FRCF

STATION = KMRF
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.002	-----	0.015	-----	52	1	0.0118	0.0118	0.0118	1	1	100.0	
ANGLE 2 (DEG)	-0.022	-----	0.039	-----	52	1	0.0195	0.0195	0.0195	1	1	96.2	
RANGE (M)	-0.080	-----	7.033	-----	52	1	4.3301	4.3301	4.3301	1	1	100.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	1	0.0	

COMBINED STATISTICS SUMMARY FOR KMRF

STATION = MIL3
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.008	0.034	0.023	0.030	317	17	0.0058	0.0504	0.0150	18	18	91.8	
ANGLE 2 (DEG)	-0.012	0.024	0.012	0.020	372	18	0.0016	0.0106	0.0065	18	18	97.3	
RANGE (M)	-----	-----	-----	-----	0	0	-----	-----	-----	0	18	0.0	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	18	100.0	

COMBINED STATISTICS SUMMARY FOR MIL3

STATION = MILA
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	0.001	0.046	0.016	0.028	262	11	0.0055	0.0185	0.0093	11	12	96.2	
ANGLE 2 (DEG)	-0.006	0.014	0.009	0.013	280	11	0.0022	0.0119	0.0072	11	12	100.0	
RANGE (M)	1.775	-----	3.819	-----	31	1	1.3892	1.3892	1.3892	1	12	100.0	
RANGE-RATE (M/S)	0.006	-----	0.016	-----	35	1	0.0012	0.0012	0.0012	1	12	100.0	

COMBINED STATISTICS SUMMARY FOR MILA

STATION = WL2F
SATELLITE = ISS
SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY

ANGLE 1 (DEG)	0.002	0.007	0.013	0.014	1644	33	0.0026	0.0226	0.0108	33	33	100.0
ANGLE 2 (DEG)	-0.001	0.015	0.014	0.016	1655	33	0.0033	0.0226	0.0105	33	33	100.0
RANGE (M)	2.482	10.512	13.238	14.458	1655	33	2.9716	16.5704	9.5206	33	33	99.9
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	33	0.0

COMBINED STATISTICS SUMMARY FOR WL2F

STATION = WLPQ
 SATELLITE = ISS
 SATELLITE = STS-119

	RESIDUALS				VDNA NOISE				RATING				
	MEAN	DEV	SD	RSS	PTS	PASSES	MIN	MAX	RMS	PASSES	TOTALPASSES	%USE	ANOMALY
ANGLE 1 (DEG)	-0.001	0.003	0.004	0.004	1333	27	0.0008	0.0037	0.0019	27	27	100.0	
ANGLE 2 (DEG)	0.005	0.007	0.003	0.007	1338	27	0.0008	0.0043	0.0016	27	27	100.0	
RANGE (M)	-0.791	12.243	14.317	15.590	1338	27	2.0693	29.2244	10.0032	27	27	99.1	
RANGE-RATE (M/S)	-----	-----	-----	-----	0	0	-----	-----	-----	0	27	0.0	

COMBINED STATISTICS SUMMARY FOR WLPQ

11. SN EVENT SUMMARY REPORT

The SN Event Summary Report provides a detailed summary of the tracking data quality of each SN tracking data event for STS. This report gives a chronological listing of all STS SN events summarized by Tracking Data Relay Satellite (TDRS) used for each event. The start and stop time, as well as other information pertaining to data quality such as the number of invalid, anomalous, and usable frames of tracking data, are listed for each event. Each event is rated as either a success or a failure. Comments are included for significant anomalous tracking data or for events having more than 30% invalid tracking data. This report also includes a statistical summary regarding the overall tracking data quality for all events for each TDRS used for STS support. This report is generated after the launch of STS.

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TEAS  
TEAS  
TEAS  
TEAS TRACKING EVALUATION AUTOMATION SOFTWARE (TEAS)  
TEAS ALLIED SIGNAL TECHNICAL SERVICES CORPORATION  
TEAS TRACKING SUPPORT SERVICES (TSS)  
TEAS GODDARD SPACE FLIGHT CENTER  
TEAS BUILDING 28, ROOM N230  
TEAS GARY W. WILLIAMSON  
TEAS (301) 286-1323 PHONE  
TEAS  
TEAS  
TEAS  
TEAS TEAS TEAS TEAS TEAS TEAS TEAS TEAS TEAS TEAS TEAS TEAS  
1 #####  
# Daily Statistics Start: 20090323/235727 GMT #  
# Daily Statistics End: 20090324/224755 GMT #  
# Mission Statistics Start: 20090314/000000 GMT #  
# Mission Statistics End: 20090324/224755 GMT #  
# Report Generated on: 20090325/010140 GMT #  
# Report Generated by: Mike Blizzard (301) 286-1334 #  
#####  
1 STS-119 TDRS- 3 EVENT TRACKING SUMMARY LOG  
REPORT GENERATION TIME: 20090325/010140 GMT  
  
S  
EVT ORBIT TDRS- 3 AOS LOS D E G D O P P L E R GSTDN MODE NOISE  
NUM NUMBER MMDD/HHMMSS HHMMSS C RET Q L PRED INV ANM USE DCE NL TOT DCE NL MIL USE  
PTS HZ % F COMMENTS  
2 1 0316/000345 003625 10 SSA1 A 3 197 90 2 105 192 65 0 0 0 11 53 F 46% invalid Doppler, no lock = 33%  
5 2 0316/015606 020746 10 SSA1 A 3 71 6 0 65 71 1 0 0 0 9 92  
8 3 0316/031024 033934 10 SSA1 A 3 170 4 0 166 170 1 0 0 0 9 98  
24 11 0316/143922 144902 10 SSA2 A 3 59 6 0 53 58 2 0 0 0 7 90
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27	11,12	0316/155354	163034	10	SSA1	A	3	221	2	0	219	221	0	0	0	0	11	99	
34	15	0316/204852	210802	10	SSA1	A	3	116	45	18	53	113	20	0	0	0	6	46	F 39% invalid Doppler, no lock = 17%
38	16	0316/222239	224639	10	SSA1	A	3	145	13	18	114	143	6	0	0	0	8	79	
59	25,26	0317/123547	131507	10	SSA1	A	3	237	17	0	220	235	4	0	0	0	8	93	
62	27	0317/143808	144118	10	SSA1	A	3	20	3	0	17	19	1	0	0	0	7	85	
65	27,28	0317/154658	161518	10	SSA1	A	3	171	0	0	171	171	0	0	0	0	8	100	
68	29	0317/174429	175039	10	SSA1	A	3	38	2	0	36	38	1	0	0	0	5	95	
71	30	0317/192057	192757	10	SSA1	A	3	43	2	0	41	43	0	0	0	0	7	95	
75	31	0317/205714	210724	10	SSA1	A	3	62	4	2	56	61	1	0	0	0	7	90	
78	32	0317/222611	225951	10	SSA1	A	3	204	5	2	197	204	0	0	0	0	5	97	
81	33	0318/001431	002621	10	SSA1	A	3	72	2	0	70	72	0	0	0	0	5	97	
99	40,41	0318/113930	120300	10	SSA1	A	3	142	2	0	140	142	0	0	0	0	7	99	
104	43	0318/145825	150515	10	SSA1	A	3	42	0	0	42	42	0	0	0	0	8	100	
107	44	0318/163534	163904	10	SSA1	A	3	22	0	0	22	22	0	0	0	0	7	100	
110	45	0318/181523	181803	10	SSA1	A	3	17	0	0	17	17	17	0	0	0	0	100	
113	46	0318/194811	201651	10	SSA1	A	3	173	2	0	171	172	1	0	0	0	8	99	
116	47	0318/212520	215300	10	SSA1	A	3	168	6	3	159	168	1	0	0	0	7	95	
119	48	0318/230029	232629	10	SSA1	A	3	157	2	0	155	157	0	0	0	0	6	99	
122	49	0319/004951	010201	10	SSA1	A	3	74	2	0	72	74	1	0	0	0	8	97	
125	50	0319/022246	024346	10	SSA1	A	3	127	8	3	116	127	0	0	0	0	8	91	
129	51	0319/035950	042440	10	SSA1	A	3	151	0	0	151	151	0	0	0	0	7	100	
132	52,53	0319/053528	060248	10	SSA1	A	3	165	7	0	158	165	0	0	0	0	4	96	
135	53,54	0319/071054	074104	10	SSA1	A	3	182	0	0	182	182	0	0	0	0	6	100	
138	54,55	0319/085058	091738	10	SSA1	A	3	161	2	0	159	160	1	0	0	0	8	99	
141	55,56	0319/102923	103903	10	SSA1	A	3	59	11	4	44	58	3	0	0	0	7	75	
144	57	0319/120657	121937	10	SSA1	A	3	77	6	0	71	76	1	0	0	0	9	92	
151	60	0319/170309	170859	10	SSA1	A	3	36	6	0	30	35	2	0	0	0	4	83	
154	61	0319/183921	184651	10	SSA1	A	3	46	2	0	44	46	1	0	0	0	8	96	
157	62	0319/201602	204452	10	SSA1	A	3	174	3	0	171	173	1	0	0	0	4	98	
160	63	0319/215411	222051	10	SSA1	A	3	162	11	3	148	160	3	0	0	0	4	91	
163	64	0319/233347	235757	10	SSA1	A	3	146	2	0	144	146	0	0	0	0	5	99	
166	65	0320/012519	012959	10	SSA1	A	3	29	0	0	29	29	0	0	0	0	4	100	
173	68,69	0320/060220	063130	10	SSA1	A	3	176	0	0	176	176	0	0	0	0	4	100	
176	69,70	0320/073802	080832	10	SSA1	A	3	184	6	0	178	183	1	0	0	0	4	97	
179	70,71	0320/091711	093951	10	SSA1	A	3	137	14	6	117	134	4	0	0	0	4	85	
182	71,72	0320/105520	110740	10	SSA1	A	3	75	2	9	64	75	0	0	0	0	5	85	
187	74	0320/141732	142342	10	SSA1	A	3	38	4	7	27	38	0	0	0	0	7	71	
190	75	0320/155429	155959	10	SSA1	A	3	34	23	7	4	33	7	0	0	0	0	12	F 68% invalid Doppler, no lock = 21%
193	76	0320/172911	174451	10	SSA1	A	3	95	45	7	43	90	22	0	0	0	5	45	F 47% invalid Doppler, no lock = 23%
196	77	0320/190706	191626	10	SSA1	A	3	57	1	0	56	57	0	0	0	0	6	98	
199	78	0320/204921	211251	10	SSA1	A	3	142	11	2	129	141	1	0	0	0	4	91	
202	79	0320/223111	224851	10	SSA1	A	3	107	2	0	105	107	1	0	0	0	3	98	
205	80	0321/001512	002552	10	SSA1	A	3	65	2	0	63	65	1	0	0	0	3	97	
208	81	0321/015153	020133	10	SSA1	A	3	59	5	0	54	59	1	0	0	0	5	92	
211	82,83	0321/031814	035324	10	SSA1	A	3	212	1	0	211	212	0	0	0	0	4	100	
214	83,84	0321/045349	052129	10	SSA1	A	3	167	1	0	166	167	0	0	0	0	4	99	
217	84,85	0321/063246	065926	10	SSA1	A	3	161	4	0	157	159	2	0	0	0	4	98	
220	85,86	0321/080532	083602	10	SSA1	A	3	184	0	0	184	184	0	0	0	0	3	100	

223	86,87	0321/094414	095724	10	SSA1	A	3	80	8	10	62	79	3	0	0	0	0	3	78
226	88	0321/112548	113528	10	SSA1	A	3	59	3	0	56	59	0	0	0	0	0	4	95
233	91	0321/162201	162751	10	SSA1	A	3	36	0	0	36	36	0	0	0	0	0	5	100
236	92	0321/175813	180553	10	SSA1	A	3	47	3	0	44	47	1	0	0	0	0	3	94
239	93	0321/193502	195652	10	SSA1	A	3	132	12	2	118	131	4	0	0	0	0	3	89
242	94	0321/211318	214058	10	SSA1	A	3	167	0	0	167	167	0	0	0	0	0	4	100
245	95	0321/225317	231657	10	SSA1	A	3	143	2	0	141	143	0	0	0	0	0	4	99
254	99,100	0322/052037	054537	10	SSA1	A	3	151	9	0	142	151	2	0	0	0	0	6	94
257	100,101	0322/065622	072652	10	SSA1	A	3	184	1	0	183	184	0	0	0	0	0	3	99
259	101,102	0322/083336	085646	10	SSA1	A	3	141	10	9	122	139	2	0	0	0	0	4	87
262	102,103	0322/101405	102605	10	SSA1	A	3	73	3	2	68	73	1	0	0	0	0	5	93
276	109	0322/202204	202834	10	SSA1	A	3	40	2	0	38	40	1	0	0	0	0	5	95
285	113,114	0323/023906	031156	10	SSA1	A	3	198	2	0	196	198	0	0	0	0	0	4	99
287	114,115	0323/041521	043951	10	SSA1	A	3	148	2	0	146	148	0	0	0	0	0	3	99
290	115,116	0323/055141	061741	10	SSA1	A	3	158	2	0	156	158	1	0	0	0	0	4	99
292	116,117	0323/072856	075426	10	SSA1	A	3	154	6	1	147	154	1	0	0	0	0	4	95
294	117,118	0323/090756	091556	10	SSA1	A	3	49	5	13	31	49	0	0	0	0	0	5	63
297	118,119	0323/104311	105801	10	SSA1	A	3	91	4	0	87	91	1	0	0	0	0	3	96
300	120	0323/122725	122955	10	SSA1	A	3	16	3	0	13	15	1	0	0	0	0	2	81
305	122	0323/154101	154711	10	SSA1	A	3	38	2	1	35	38	2	0	0	0	0	5	92
308	123	0323/171712	172532	10	SSA1	A	3	51	3	0	48	51	2	0	0	0	0	3	94
311	124	0323/185406	191956	10	SSA1	A	3	156	19	9	128	153	4	0	0	0	0	4	82
314	125	0323/203239	205859	10	SSA1	A	3	159	4	3	152	159	1	0	0	0	0	3	96
317	126	0323/220111	223551	10	SSA1	A	3	209	3	0	206	209	0	0	0	0	0	4	99
330	132	0324/075748	080508	10	SSA1	A	3	45	6	10	29	45	0	0	0	0	0	5	64
333	133,134	0324/092631	094431	10	SSA1	A	3	109	2	0	107	109	0	0	0	0	0	4	98
340	137	0324/142431	143741	10	SSA1	A	3	80	2	0	78	80	0	0	0	0	0	4	98
347	139	0324/180016	181916	10	SSA1	A	3	115	3	0	112	115	1	0	0	0	0	3	97
355	142	0324/223848	224748	10	SSA1	A	3	55	1	0	54	55	0	0	0	0	0	5	98

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STS-119 TDRS- 4 EVENT TRACKING SUMMARY LOG
REPORT GENERATION TIME: 20090325/010140 GMT

EVT	ORBIT	S										GSTDN MODE NOISE										COMMENTS	
		D	E	G	D	O	P	P	L	E	R	INV	ANM	USE	DCE	NL	TOT	DCE	NL	MIL	USE		
NUM	NUMBER	MMDD	HHMMSS	HHMMSS	I	SERV	P	T	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	HZ	%	F	
1	1	0315	/234355	001855	10	SSA2	B	1	211	52	0	159	202	36	0	0	0	25	75				
4	2	0316	/012447	015507	10	SSA2	B	1	183	2	1	180	182	1	0	0	0	0	4	98			
7	3	0316	/023957	030947	10	SSA2	B	1	180	3	0	177	180	1	0	0	0	0	8	98			
10	4	0316	/043202	050632	10	SSA2	B	1	208	5	1	202	206	2	0	0	0	0	3	97			
14	6	0316	/074135	081435	10	SSA2	B	1	199	25	17	157	197	9	0	0	0	0	4	79			
16	7	0316	/091837	094857	10	SSA2	B	1	183	18	11	154	181	5	0	0	0	0	3	84			
18	8	0316	/105602	112412	10	SSA2	B	1	170	6	2	162	169	1	0	0	0	0	3	95			
20	9	0316	/123201	130121	10	SSA2	B	1	177	9	5	163	177	0	0	0	0	0	3	92			
23	10,11	0316	/140556	143846	10	SSA2	B	1	198	5	0	193	197	1	0	0	0	0	5	97			
26	11	0316	/154025	155315	10	SSA2	B	1	78	7	0	71	78	2	0	0	0	0	0	91			
29	12,13	0316	/171401	174931	10	SSA2	B	1	214	10	8	196	213	4	0	0	0	0	5	92			

31	13,14	0316/183308	192318	10	SSA2	B	1	302	3	0	299	302	0	0	0	0	3	99		
33	14,15	0316/202003	204813	10	SSA2	B	1	170	3	0	167	169	1	0	0	0	3	98		
37	16	0316/220216	222206	10	SSA2	B	1	120	0	0	120	120	0	0	0	0	4	100		
41	17	0316/233940	000830	10	SSA2	B	1	174	6	0	168	173	3	0	0	0	5	97		
43	17,18	0317/005240	014600	10	SSA2	B	1	321	5	1	315	321	1	0	0	0	4	98		
45	19	0317/023019	032249	10	SSA2	B	1	316	7	5	304	316	0	0	0	0	4	96		
47	20	0317/040700	045810	10	SSA2	B	1	308	12	3	293	308	3	0	0	0	4	95		
49	21	0317/055800	063220	10	SSA2	B	1	207	4	0	203	206	2	0	0	0	2	98		
51	22	0317/071621	080621	10	SSA2	B	1	301	64	56	181	297	25	0	0	0	3	60	F	21% invalid Doppler, no lock = 8%
54	23	0317/091001	094101	10	SSA2	B	1	187	25	10	152	186	3	0	0	0	3	81		
56	24	0317/104834	111004	10	SSA2	B	1	130	10	0	120	130	1	0	0	0	5	92		
58	25	0317/122428	123508	10	SSA2	B	1	65	2	0	63	65	0	0	0	0	7	97		
61	26	0317/135840	141000	10	SSA2	B	1	69	15	5	49	68	1	0	0	0	5	71		
64	27	0317/151549	154619	10	SSA2	B	1	184	4	0	180	184	1	0	0	0	4	98		
67	28,29	0317/170847	174357	10	SSA2	B	1	212	8	24	180	212	0	0	0	0	5	85		
70	29,30	0317/184630	192010	10	SSA2	B	1	203	47	22	134	201	22	0	0	0	4	66	F	23% invalid Doppler, no lock = 11%
74	30,31	0317/200329	205639	10	SSA2	B	1	320	12	3	305	319	1	0	0	0	9	95		
77	32	0317/220550	222540	10	SSA2	B	1	120	2	0	118	120	1	0	0	0	3	98		
80	33	0317/234436	001356	10	SSA2	B	1	177	27	3	147	175	4	0	0	0	3	83		
83	34	0318/011909	015359	10	SSA2	B	1	210	38	2	170	207	12	0	0	0	4	81		
85	35	0318/025719	033159	10	SSA2	B	1	209	0	0	209	209	0	0	0	0	3	100		
87	36	0318/041556	050936	10	SSA2	B	1	323	36	4	283	320	16	0	0	0	3	88		
89	37	0318/055257	064547	10	SSA2	B	1	318	25	18	275	316	8	0	0	0	3	86		
91	38	0318/072914	082214	10	SSA2	B	1	319	16	23	280	318	3	0	0	0	3	88		
95	39	0318/091113	095943	10	SSA2	B	1	292	4	0	288	292	0	0	0	0	3	99		
98	40	0318/110935	113855	10	SSA2	B	1	177	0	0	177	177	0	0	0	0	2	100		
101	41,42	0318/123911	131901	10	SSA2	B	1	240	2	4	234	240	0	0	0	0	2	98		
103	42,43	0318/142300	145750	10	SSA2	B	1	210	1	0	209	210	0	0	0	0	3	100		
106	43,44	0318/155111	163501	10	SSA2	B	1	264	0	0	264	264	0	0	0	0	2	100		
109	44,45	0318/172741	181121	10	SSA2	B	1	263	0	0	263	263	0	0	0	0	3	100		
112	45,46	0318/190141	194731	10	SSA2	B	1	276	11	11	254	274	2	0	0	0	3	92		
115	46,47	0318/204431	212441	10	SSA2	B	1	242	7	0	235	241	1	0	0	0	3	97		
118	48	0318/223446	225956	10	SSA2	B	1	152	3	0	149	150	2	0	0	0	3	98		
121	49	0319/001016	004336	10	SSA2	B	1	201	4	0	197	200	1	0	0	0	3	98		
124	50	0319/014836	022206	10	SSA2	B	1	202	0	0	202	202	0	0	0	0	2	100		
127	51	0319/033541	034151	10	SSA1	A	1	38	1	0	37	37	1	0	0	0	2	97		
128	51	0319/034731	035911	10	SSA2	B	1	71	0	0	71	71	0	0	0	0	2	100		
131	52	0319/050142	053452	10	SSA2	B	1	200	4	8	188	200	1	0	0	0	3	94		
134	53	0319/064008	071018	10	SSA2	B	1	182	4	1	177	182	2	0	0	0	3	97		
137	54	0319/081311	085021	10	SSA2	B	1	224	0	0	224	224	0	0	0	0	3	100		
140	55	0319/095958	102848	10	SSA2	B	1	174	3	1	170	174	0	0	0	0	2	98		
143	56,57	0319/113746	120626	10	SSA2	B	1	173	5	0	168	172	2	0	0	0	2	97		
146	57,58	0319/131417	134807	10	SSA2	B	1	204	1	0	203	204	0	0	0	0	4	100		
148	58,59	0319/145029	152559	10	SSA2	B	1	214	5	0	209	214	2	0	0	0	3	98		
150	59,60	0319/162710	170230	10	SSA2	B	1	213	0	0	213	213	0	0	0	0	4	100		
153	60,61	0319/180514	183844	10	SSA2	B	1	202	7	16	179	202	0	0	0	0	3	89		
156	61,62	0319/193831	201531	10	SSA2	B	1	223	7	3	213	223	0	0	0	0	4	96		
159	63	0319/212500	215340	10	SSA2	B	1	173	5	3	165	173	0	0	0	0	4	95		

162	64	0319/230309	233309	10	SSA2	B	1	181	2	0	179	181	0	0	0	0	4	99
165	65	0320/003949	011319	10	SSA2	B	1	202	11	12	179	200	3	0	0	0	3	89
168	66	0320/021608	025138	10	SSA2	B	1	214	1	3	210	214	0	0	0	0	4	98
170	67	0320/035237	042817	10	SSA2	B	1	215	8	0	207	213	3	0	0	0	5	96
172	68	0320/053018	060148	10	SSA2	B	1	190	16	11	163	189	4	0	0	0	5	86
175	69	0320/064801	073731	10	SSA2	B	1	298	19	15	264	298	4	0	0	0	5	89
178	70	0320/085004	091634	10	SSA2	B	1	160	2	0	158	159	1	0	0	0	6	99
181	71	0320/102843	105443	10	SSA2	B	1	157	6	0	151	157	3	0	0	0	6	96
184	72,73	0320/120539	123759	10	SSA2	B	1	195	4	0	191	195	1	0	0	0	5	98
186	73,74	0320/134152	141652	10	SSA2	B	1	211	5	0	206	211	1	0	0	0	5	98
189	74,75	0320/150007	155357	10	SSA2	B	1	324	6	1	317	324	1	0	0	0	5	98
192	75,76	0320/165536	172836	10	SSA2	B	1	199	19	117	63	197	8	0	0	0	6	32 F 9% invalid Doppler, no lock = 4%.
																	Doppler Drift.	
195	76,77	0320/182811	190631	10	SSA2	B	1	231	7	8	216	230	1	0	0	0	5	94
198	77,78	0320/200711	204351	10	SSA2	B	1	221	0	1	220	221	0	0	0	0	4	100
201	79	0320/215401	222251	10	SSA2	B	1	174	2	0	172	173	1	0	0	0	4	99
204	80	0320/233112	000312	10	SSA2	B	1	193	6	5	182	192	3	0	0	0	3	94
207	81	0321/010727	014217	10	SSA2	B	1	210	5	0	205	210	2	0	0	0	3	98
210	82	0321/023531	031741	10	SSA2	B	1	254	2	0	252	254	1	0	0	0	4	99
213	83	0321/042042	045312	10	SSA2	B	1	196	13	8	175	195	3	0	0	0	3	89
216	84	0321/055411	063211	10	SSA2	B	1	229	30	6	193	227	12	0	0	0	4	84
219	85	0321/071531	080501	10	SSA2	B	1	298	18	15	265	298	11	0	0	0	3	89
222	86	0321/091914	094334	10	SSA2	B	1	147	5	0	142	147	1	0	0	0	4	97
225	87,88	0321/105647	112517	10	SSA2	B	1	172	0	0	172	172	0	0	0	0	4	100
228	88,89	0321/123310	130730	10	SSA2	B	1	207	4	0	203	207	0	0	0	0	5	98
230	89,90	0321/140921	144311	10	SSA2	B	1	204	5	1	198	204	3	0	0	0	4	97
232	90,91	0321/154610	162130	10	SSA2	B	1	213	9	1	203	213	1	0	0	0	4	95
235	91,92	0321/172430	175740	10	SSA2	B	1	200	9	16	175	199	1	0	0	0	11	88
238	92,93	0321/185711	193431	10	SSA2	B	1	225	1	1	223	225	0	0	0	0	5	99
241	93,94	0321/203411	211241	10	SSA2	B	1	232	1	0	231	232	1	0	0	0	5	100
244	95	0321/222218	225238	10	SSA2	B	1	183	0	1	182	183	0	0	0	0	4	99
247	96	0321/235011	003231	10	SSA2	B	1	255	1	3	251	255	0	0	0	0	3	98
249	97	0322/013456	021036	10	SSA2	B	1	215	4	1	210	215	1	0	0	0	3	98
251	98	0322/025353	034713	10	SSA2	B	1	321	24	4	293	320	15	0	0	0	3	91
253	99	0322/043035	052005	10	SSA2	B	1	298	22	20	256	297	9	0	0	0	3	86
256	100	0322/060646	065546	10	SSA2	B	1	295	25	11	259	292	11	0	0	0	3	88
258	101	0322/074319	083259	10	SSA2	B	1	299	18	16	265	299	6	0	0	0	3	89
261	102	0322/094750	101330	10	SSA2	B	1	155	3	0	152	155	1	0	0	0	5	98
264	103,104	0322/112435	115745	10	SSA2	B	1	200	5	1	194	199	2	0	0	0	6	97
266	104,105	0322/130043	133603	10	SSA2	B	1	213	8	3	202	212	2	0	0	0	4	95
268	105,106	0322/142839	151249	10	SSA2	B	1	266	0	0	266	266	0	0	0	0	4	100
270	106,107	0322/160431	164541	10	SSA2	B	1	248	0	0	248	248	0	0	0	0	5	100
272	107,108	0322/174231	182521	10	SSA2	B	1	258	3	12	243	258	0	0	0	0	7	94
274	108,109	0322/192311	200251	10	SSA2	B	1	239	2	0	237	239	0	0	0	0	6	99
278	110	0322/210311	214221	10	SSA2	B	1	236	62	17	157	228	31	0	0	0	5	67 F 26% invalid Doppler, no lock = 13%
280	111	0322/225013	232233	10	SSA2	B	1	195	62	16	117	192	37	0	0	0	6	60 F 32% invalid Doppler, no lock = 19%
282	112	0323/002622	010122	10	SSA2	B	1	211	6	2	203	211	0	0	0	0	9	96
284	113	0323/014444	023834	10	SSA2	B	1	324	34	4	286	322	19	0	0	0	4	88

286	114	0323/032511	041441	10	SSA2	B	1	298	16	9	273	298	4	0	0	0	4	92
289	115	0323/051851	055101	10	SSA2	B	1	194	7	0	187	194	2	0	0	0	3	96
291	116	0323/063731	072821	10	SSA2	B	1	306	9	12	285	306	4	0	0	0	3	93
293	117	0323/081115	090715	10	SSA2	B	1	337	44	17	276	329	23	0	0	0	3	82
296	118	0323/101556	104236	10	SSA2	B	1	161	2	0	159	161	1	0	0	0	4	99
299	119,120	0323/115211	122641	10	SSA2	B	1	208	7	1	200	206	2	0	0	0	7	96
302	120,121	0323/132820	140400	10	SSA2	B	1	215	4	0	211	214	1	0	0	0	6	98
304	121,122	0323/150001	154021	10	SSA2	B	1	243	3	0	240	243	1	0	0	0	5	99
307	122,123	0323/163231	171631	11	SSA1	A	1	265	14	7	244	262	4	0	0	0	7	92
310	123,124	0323/181231	185321	10	SSA1	A	1	246	7	0	239	246	1	0	0	0	6	97
313	124,125	0323/195211	203151	10	SSA2	B	1	239	7	0	232	239	3	0	0	0	7	97
316	126	0323/213801	220031	10	SSA2	B	1	136	2	0	134	136	0	0	0	0	6	99
319	127	0323/230931	235151	10	SSA2	B	1	255	4	5	246	255	1	0	0	0	5	96
321	128	0324/004611	012931	10	SSA2	B	1	261	5	2	254	259	2	0	0	0	4	97
323	129	0324/023033	030603	10	SSA2	B	1	214	3	0	211	214	0	0	0	0	3	99
325	130	0324/040842	044212	10	SSA2	B	1	202	8	7	187	202	1	0	0	0	4	93
327	131	0324/053814	061854	10	SSA2	B	1	245	13	1	231	245	2	0	0	0	4	94
329	132	0324/071411	075701	10	SSA2	B	1	258	3	2	253	257	2	0	0	0	4	98
332	133	0324/090700	092600	10	SSA2	B	1	115	2	0	113	115	0	0	0	0	4	98
335	134,135	0324/104339	111659	10	SSA2	B	1	201	8	0	193	201	2	0	0	0	3	96
337	135,136	0324/121935	125505	10	SSA2	B	1	214	4	1	209	214	1	0	0	0	3	98
339	136,137	0324/134731	142351	10	SSA2	B	1	219	4	0	215	219	1	0	0	0	3	98
342	137,138	0324/153345	160405	10	SSA2	B	1	183	9	0	174	180	3	0	0	0	4	95
345	138,139	0324/165042	173942	10	SSA2	B	1	295	25	20	250	294	11	0	0	0	3	85
349	139,140	0324/182659	192149	10	SSA2	B	1	330	34	3	293	327	17	0	0	0	3	89
351	141	0324/203209	205809	10	SSA2	B	1	157	2	0	155	157	0	0	0	0	3	99
354	142	0324/220858	223808	10	SSA2	B	1	176	6	2	168	175	3	0	0	0	3	95

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STS-119 TDRS- 5 EVENT TRACKING SUMMARY LOG
REPORT GENERATION TIME: 20090325/010140 GMT

EVT NUM	ORBIT NUMBER	S												GSTDN MODE NOISE						COMMENTS		
		TDRS- 5	AOS	LOS	C	RET	Q	L	PRED	INV	ANM	USE	DCE	NL	TOT	DCE	NL	MIL	USE	HZ	%	F
MMDD/HHMMSS	HHMMSS	I	SERV	P	T	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	Hz			
3	1,2	0316/003430	012410	10	SSA2	B	2	299	6	0	293	299	0	0	0	0	0	0	6	98		
6	2,3	0316/020828	023918	10	SSA2	B	2	186	27	19	140	183	7	0	0	0	0	0	7	75		
9	3,4	0316/034105	043015	10	SSA2	B	2	296	41	28	227	292	28	0	0	0	0	0	4	77		
11	4,5	0316/051450	060540	10	SSA2	B	2	306	18	8	280	305	5	0	0	0	0	0	3	92		
13	5,6	0316/064906	073616	10	SSA2	B	2	284	3	3	278	283	1	0	0	0	0	0	3	98		
15	6,7	0316/082442	091612	10	SSA2	B	2	310	2	0	308	310	0	0	0	0	0	0	5	99		
17	7,8	0316/100159	105529	10	SSA2	B	2	322	0	3	319	322	0	0	0	0	0	0	4	99		
19	9	0316/113921	123121	10	SSA2	B	2	313	4	2	307	313	1	0	0	0	0	0	4	98		
21	10	0316/131513	133823	10	SSA2	B	2	140	3	1	136	139	1	0	0	0	0	0	4	97		
25	11	0316/144936	153946	10	SSA2	B	2	302	31	12	259	298	15	0	0	0	0	0	0	86		
28	12	0316/163109	171329	10	SSA2	B	2	255	7	16	232	254	1	0	0	0	0	0	5	91		
30	13	0316/175731	183231	10	SSA2	B	2	211	12	24	175	208	4	0	0	0	0	0	5	83		
32	14	0316/193240	201930	10	SSA2	B	2	282	2	0	280	282	0	0	0	0	0	2	99			

35	15	0316/210930	213710	10	SSA2	B	2	167	3	2	162	167	0	0	0	0	3	97
39	16	0316/224710	231450	10	SSA2	B	2	167	2	0	165	166	1	0	0	0	2	99
42	17	0317/002333	005203	10	SSA2	B	2	172	3	2	167	172	0	0	0	0	2	97
44	18,19	0317/015823	022943	10	SSA2	B	2	189	38	15	136	185	12	0	0	0	7	72
46	19,20	0317/033221	040621	10	SSA2	B	2	205	27	5	173	203	14	0	0	0	4	84
48	20,21	0317/050616	055726	10	SSA2	B	2	308	10	0	298	307	4	0	0	0	4	97
50	21,22	0317/064051	071541	10	SSA2	B	2	210	2	0	208	210	0	0	0	0	4	99
52	22,23	0317/082119	085329	10	SSA2	B	2	194	2	0	192	194	1	0	0	0	4	99
55	24	0317/095639	104759	10	SSA2	B	2	309	5	1	303	309	0	0	0	0	3	98
57	25	0317/113431	122341	10	SSA2	B	2	296	0	0	296	295	1	0	0	0	4	100
60	26	0317/131539	135809	10	SSA2	B	2	256	7	1	248	254	3	0	0	0	4	97
63	27	0317/144154	151514	10	SSA2	B	2	201	4	0	197	201	0	0	0	0	5	98
66	28	0317/161551	170801	10	SSA2	B	2	314	22	4	288	311	5	0	0	0	7	92
69	29	0317/175110	184540	10	SSA2	B	2	328	8	1	319	328	3	0	0	0	5	97
72	30	0317/192829	200029	10	SSA2	B	2	193	3	0	190	193	0	0	0	0	3	98
73	30	0317/200106	200256	10	SSA1	A	2	12	2	0	10	12	0	0	0	0	4	83
76	31,32	0317/210820	220510	10	SSA2	B	2	342	105	17	220	335	41	0	0	0	8	64 F 31% invalid Doppler, no lock = 12%
79	32,33	0317/230031	234341	10	SSA2	B	2	260	8	0	252	258	3	0	0	0	3	97
82	33,34	0318/003555	011835	10	SSA2	B	2	257	3	0	254	257	0	0	0	0	3	99
84	34,35	0318/020330	025640	10	SSA2	B	2	320	21	12	287	318	13	0	0	0	2	90
86	35,36	0318/033944	041524	10	SSA2	B	2	215	30	9	176	214	14	0	0	0	3	82
88	36,37	0318/051606	055226	10	SSA2	B	2	219	26	8	185	217	16	0	0	0	3	84
90	37,38	0318/065331	072841	10	SSA2	B	2	212	49	16	147	209	35	0	0	0	3	69 F 23% invalid Doppler, no lock = 17%
92	38,39	0318/083248	084828	10	SSA1	A	2	95	83	9	3	89	59	0	0	0	0	3 F 87% invalid Doppler, no lock = 62%
93	39	0318/084902	090452	10	SSA2	B	2	96	17	5	74	96	6	0	0	0	3	77
96	40	0318/101303	102613	10	SSA1	A	2	80	41	17	22	76	21	0	0	0	10	28 F 51% invalid Doppler, no lock = 26%
97	40	0318/102650	110900	10	SSA2	B	2	254	3	0	251	253	1	0	0	0	3	99
100	41	0318/120331	123831	10	SSA2	B	2	211	2	0	209	211	0	0	0	0	3	99
102	42	0318/132910	142220	10	SSA2	B	2	320	20	11	289	315	9	0	0	0	3	90
105	43	0318/150548	155038	10	SSA2	B	2	270	19	10	241	268	11	0	0	0	3	89
108	44	0318/164144	172704	10	SSA2	B	2	273	16	19	238	273	5	0	0	0	2	87
111	45	0318/181850	190110	10	SSA2	B	2	255	41	5	209	253	21	0	0	0	2	82
114	46	0318/201731	204351	10	SSA2	B	2	159	1	0	158	159	0	0	0	0	3	99
117	47,48	0318/215331	223411	10	SSA2	B	2	245	10	2	233	244	3	0	0	0	3	95
120	48,49	0318/232707	000937	10	SSA2	B	2	256	6	0	250	256	1	0	0	0	3	98
123	49,50	0319/010237	014757	10	SSA2	B	2	273	3	0	270	272	1	0	0	0	3	99
126	50,51	0319/024417	032417	10	SSA2	B	2	241	10	5	226	240	2	0	0	0	3	94
130	51,52	0319/042511	050111	10	SSA2	B	2	217	7	0	210	215	3	0	0	0	3	97
133	53	0319/060321	063931	10	SSA2	B	2	218	49	2	167	213	25	45	40	24	3	97
136	54	0319/074135	081235	10	SSA2	B	2	187	60	0	127	175	26	0	0	0	2	68 F 32% invalid Doppler, no lock = 14%
139	55	0319/091817	095927	10	SSA2	B	2	248	61	4	183	232	45	0	0	0	3	74
142	56	0319/104226	113706	10	SSA2	B	2	329	28	6	295	328	22	0	0	0	3	90
145	57	0319/122010	131340	10	SSA2	B	2	322	20	6	296	322	9	0	0	0	3	92
147	58	0319/135645	144955	10	SSA2	B	2	320	26	9	285	318	7	0	0	0	3	89
149	59	0319/153255	162635	10	SSA2	B	2	323	15	16	292	322	7	0	0	0	3	90
152	60	0319/170931	180441	10	SSA2	B	2	332	26	9	297	330	13	0	0	0	3	89
155	61	0319/184729	193759	10	SSA2	B	2	304	48	13	243	303	21	0	0	0	3	80
158	62,63	0319/204531	212421	10	SSA2	B	2	234	0	0	234	234	0	0	0	0	5	100

161	63,64	0319/222131	225951	10	SSA2	B	2	231	3	0	228	231	2	0	0	0	0	3	99
164	64,65	0319/235831	003911	10	SSA2	B	2	245	4	0	241	245	1	0	0	0	0	3	98
167	65,66	0320/013032	021532	10	SSA2	B	2	271	5	5	261	271	1	0	0	0	0	3	96
169	66,67	0320/025831	035201	10	SSA2	B	2	322	31	6	285	319	21	0	0	0	0	5	89
171	67,68	0320/043458	052938	10	SSA2	B	2	329	45	8	276	325	31	0	0	0	0	4	84
174	69	0320/063202	064722	10	SSA2	B	2	93	2	0	91	93	1	0	0	0	0	5	98
177	70	0320/080910	084930	10	SSA2	B	2	243	8	11	224	242	2	0	0	0	0	5	92
180	71	0320/094031	102811	10	SSA2	B	2	287	6	0	281	285	3	0	0	0	0	3	98
183	72	0320/111105	120505	10	SSA2	B	2	325	36	7	282	324	28	0	0	0	0	4	87
185	73	0320/124806	134116	10	SSA2	B	2	320	37	1	282	320	25	0	0	0	0	5	88
188	74	0320/142419	145929	10	SSA2	B	2	212	20	8	184	211	6	0	0	0	0	3	87
191	75	0320/160037	165457	10	SSA2	B	2	327	0	0	327	327	0	0	0	0	0	3	100
194	76	0320/174531	182731	10	SSA2	B	2	253	22	15	216	250	7	0	0	0	0	4	85
197	77	0320/191658	200638	10	SSA2	B	2	299	31	14	254	298	13	0	0	0	0	4	85
200	78,79	0320/211331	215321	10	SSA2	B	2	240	6	0	234	239	1	0	0	0	0	6	98
203	79,80	0320/224931	233031	10	SSA2	B	2	247	3	0	244	247	1	0	0	0	0	5	99
206	80,81	0321/002631	010651	10	SSA2	B	2	243	2	1	240	243	0	0	0	0	0	3	99
209	81,82	0321/020210	023500	10	SSA2	B	2	198	6	4	188	197	2	0	0	0	0	5	95
212	83	0321/035400	042010	10	SSA2	B	2	158	33	0	125	154	15	0	0	0	0	3	79
215	84	0321/052202	055332	10	SSA2	B	2	190	15	0	175	188	12	0	0	0	0	4	92
218	85	0321/070000	071500	10	SSA2	B	2	91	4	0	87	91	0	0	0	0	0	3	96
221	86	0321/083640	091840	10	SSA2	B	2	253	3	0	250	253	0	0	0	0	0	5	99
224	87	0321/100134	105614	10	SSA2	B	2	329	32	11	286	324	25	0	0	0	0	4	87
227	88	0321/113911	123231	10	SSA2	B	2	321	30	14	277	319	11	0	0	0	0	4	86
229	89	0321/131537	140847	10	SSA2	B	2	320	16	14	290	320	2	0	0	0	0	4	91
231	90	0321/145146	154536	10	SSA2	B	2	324	15	21	288	324	7	0	0	0	0	4	89
234	91	0321/162828	172348	10	SSA2	B	2	333	37	20	276	329	17	0	0	0	0	4	83
237	92	0321/180643	185633	10	SSA2	B	2	300	45	21	234	298	21	0	0	0	0	4	78
240	93	0321/195731	203331	10	SSA2	B	2	217	6	2	209	217	1	0	0	0	0	3	96
243	94,95	0321/214131	222141	10	SSA2	B	2	242	2	0	240	241	1	0	0	0	0	3	99
246	95,96	0321/231731	234531	10	SSA2	B	2	169	0	0	169	169	0	0	0	0	0	4	100
248	96,97	0322/004110	013420	10	SSA2	B	2	320	24	14	282	319	8	0	0	0	0	3	88
250	97,98	0322/021717	025317	10	SSA2	B	2	217	24	10	183	217	11	0	0	0	0	3	84
252	98,99	0322/035348	042958	10	SSA2	B	2	218	26	5	187	217	18	0	0	0	0	3	86
255	100	0322/054611	060611	10	SSA2	B	2	121	2	0	119	121	0	0	0	0	0	3	98
260	102	0322/085725	094715	10	SSA2	B	2	300	3	2	295	300	1	0	0	0	0	4	98
263	103	0322/103011	112401	10	SSA2	B	2	324	30	9	285	323	21	0	0	0	0	3	88
265	104	0322/120700	130010	10	SSA2	B	2	320	30	17	273	315	17	0	0	0	0	3	85
267	105	0322/134309	142759	10	SSA2	B	2	270	27	7	236	270	12	0	0	0	0	3	87
269	106	0322/151928	160358	10	SSA2	B	2	268	25	11	232	267	14	0	0	0	0	4	87
271	107	0322/165651	174151	10	SSA2	B	2	271	25	22	224	270	13	0	0	0	0	4	83
273	108	0322/183615	192235	10	SSA2	B	2	279	42	24	213	276	20	0	0	0	0	5	76
275	109	0322/201640	202130	10	SSA2	B	2	30	0	0	30	30	0	0	0	0	0	18	100
277	109,110	0322/202907	210237	10	SSA2	B	2	202	17	0	185	198	9	0	0	0	0	4	92
279	110,111	0322/215527	224937	10	SSA2	B	2	326	52	14	260	324	20	0	0	0	0	4	80
281	111,112	0322/233231	002541	10	SSA2	B	2	320	2	0	318	320	0	0	0	0	0	4	99
283	112,113	0323/010844	014404	10	SSA2	B	2	213	30	13	170	211	7	0	0	0	0	4	80
288	115	0323/044031	051811	10	SSA2	B	2	227	2	1	224	227	0	0	0	0	0	3	99

295	118	0323/092055	101515	10	SSA2	B	2	327	15	16	296	327	3	0	0	0	4	91
298	119	0323/105839	115129	10	SSA2	B	2	318	23	19	276	317	13	0	0	0	5	87
301	120	0323/123437	132737	10	SSA2	B	2	319	22	13	284	318	5	0	0	0	4	89
303	121	0323/141043	145923	10	SSA2	B	2	293	25	11	257	292	11	0	0	0	5	88
306	122	0323/154742	163152	10	SSA2	A	2	266	26	17	223	265	7	0	0	0	4	84
309	123	0323/172603	181153	10	SSA2	A	2	276	40	29	207	273	13	0	0	0	4	75
312	124	0323/192031	195131	10	SSA2	A	2	187	8	0	179	187	2	0	0	0	5	96
315	125,126	0323/205931	213721	10	SSA2	A	2	228	7	0	221	228	1	0	0	0	5	97
318	126,127	0323/223631	230851	10	SSA2	A	2	195	0	0	195	195	0	0	0	0	5	100
320	127,128	0324/000005	004535	10	SSA2	A	2	274	21	17	236	273	7	0	0	0	4	86
322	128,129	0324/013614	022944	10	SSA2	A	2	322	40	10	272	319	14	0	0	0	4	84
324	129,130	0324/031247	040747	10	SSA2	A	2	331	27	18	286	330	12	0	0	0	4	86
326	130,131	0324/045046	053736	10	SSA2	A	2	282	40	5	237	279	26	0	0	0	3	84
328	131,132	0324/063056	071336	10	SSA2	A	2	257	41	22	194	254	15	0	0	0	4	75
331	133	0324/081116	090616	10	SSA2	A	2	331	22	17	292	330	11	0	0	0	3	88
334	134	0324/094925	104245	10	SSA2	A	2	321	30	8	283	320	15	0	0	0	4	88
336	135	0324/112608	121848	10	SSA2	A	2	317	26	13	278	317	12	0	0	0	3	88
338	136	0324/130159	134659	10	SSA2	A	2	271	35	7	229	264	17	0	0	0	4	85
341	137	0324/143818	153258	10	SSA2	A	2	329	22	13	294	328	13	0	0	0	3	89
344	138	0324/161548	164728	10	SSA2	A	2	191	38	16	137	188	14	0	0	0	3	72
348	139	0324/181947	182627	10	SSA2	A	2	41	4	3	34	41	0	0	0	0	2	83
350	140,141	0324/193543	203133	10	SSA2	A	2	336	46	11	279	333	23	0	0	0	3	83
353	141,142	0324/211422	220822	10	SSA2	A	2	325	30	15	280	322	19	0	0	0	4	86

1 STS-119 TDRS- 6 EVENT TRACKING SUMMARY LOG
REPORT GENERATION TIME: 20090325/010140 GMT

		S																		
EVT	ORBIT	TDRS-	6	AOS	LOS	D	E	G	D	O	P	P	L	E	R	GSTDN	MODE	NOISE		
NUM	NUMBER	MMDD/HHMMSS	HHMMSS	I	SERV	C	RET	Q	L	PRED	INV	ANM	USE	DCE	NL	TOT	DCE	NL	MIL	USE
						PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	HZ	%	F
22	10	0316/134331	140511	10	SSA1	A	1	131	1	2	128	131	0	0	0	0	0	3	98	
36	15,16	0316/213749	220139	10	SSA1	A	1	144	3	0	141	144	0	0	0	0	0	3	98	
40	16,17	0316/231523	233903	10	SSA1	A	1	143	7	1	135	141	4	0	0	0	0	3	94	
53	23	0317/085401	090921	10	SSA1	A	1	93	0	1	92	93	0	0	0	0	0	11	99	
346	139	0324/175429	175939	10	SSA2	B	1	32	23	9	0	32	12	0	0	0	0	0	F	72% invalid Doppler, no lock = 38%

1 STS-119 TDRS-10 EVENT TRACKING SUMMARY LOG
REPORT GENERATION TIME: 20090325/010140 GMT

		S																		
EVT	ORBIT	TDRS-10	AOS	LOS	D	E	G	D	O	P	P	L	E	R	GSTDN	MODE	NOISE			
NUM	NUMBER	MMDD/HHMMSS	HHMMSS	I	SERV	C	RET	Q	L	PRED	INV	ANM	USE	DCE	NL	TOT	DCE	NL	MIL	USE
						PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	PTS	HZ	%	F
12	5	0316/060612	063922	10	SSA1	A	2	200	2	0	198	200	0	0	0	0	0	3	99	
94	39	0318/090528	091038	10	SSA1	B	2	32	25	7	0	31	11	0	0	0	0	0	F	78% invalid Doppler, no lock = 34%
343	138	0324/160441	160951	10	SSA1	A	2	32	0	0	32	32	0	0	0	0	0	9	100	
352	141	0324/205841	210321	10	SSA2	A	2	29	1	0	28	29	1	0	0	0	0	9	97	

1

STS-119 TDRS- 3 TRACKING DATA DAILY REPORT FOR DAY 9

REPORT GENERATION TIME: 20090325/010140 GMT

DAILY EVENTS: 330 TO 355 FROM 20090324/075748 TO 20090324/224748 GMT

MISSION EVENTS: 2 TO 355 FROM 20090316/000345 TO 20090324/224748 GMT

	DAILY	MISSION
# OF EVENTS	5	81
# OF SUCCESSES	4	75
% SUCCESSES	80.0	92.6
# OF USABLE MINUTES	63.3	1407.3
# OF ANOMALOUS MINUTES	1.7	25.5
# OF INVALID MINUTES	2.3	86.0
# OF TOTAL MINUTES	67.3	1518.8
AV. USABLE MINUTES	12.7	17.4
AV. ANOMALOUS MINUTES	0.3	0.3
AV. INVALID MINUTES	0.5	1.1
AV. MINUTES PER EVENT	13.5	18.8
% USABLE	94.1	92.7
% ANOMALOUS	2.5	1.7
% INVALID	3.5	5.7

THE FOLLOWING DAILY EVENTS WERE RATED AS FAILURES FOR TDRS- 3:

EVT YYYYMMDD/HHMMSS SERV	COMMENT
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330 20090324/075748 SSA1 13% invalid Doppler, no lock = 0%

1

STS-119 TDRS- 4 TRACKING DATA DAILY REPORT FOR DAY 9

REPORT GENERATION TIME: 20090325/010140 GMT

DAILY EVENTS: 321 TO 354 FROM 20090324/004611 TO 20090324/223808 GMT

MISSION EVENTS: 1 TO 354 FROM 20090315/234355 TO 20090324/223808 GMT

	DAILY	MISSION
# OF EVENTS	14	133
# OF SUCCESSES	14	128
% SUCCESSES	100.0	96.2
# OF USABLE MINUTES	484.3	4468.3
# OF ANOMALOUS MINUTES	6.3	115.3
# OF INVALID MINUTES	21.0	222.5
# OF TOTAL MINUTES	511.7	4806.3
AV. USABLE MINUTES	34.6	33.6
AV. ANOMALOUS MINUTES	0.5	0.9
AV. INVALID MINUTES	1.5	1.7
AV. MINUTES PER EVENT	36.5	36.1
% USABLE	94.7	93.0
% ANOMALOUS	1.2	2.4
% INVALID	4.1	4.6

NO EVENTS WERE RATED AS FAILURES FOR TDRS- 4.

1

STS-119 TDRS- 5 TRACKING DATA DAILY REPORT FOR DAY 9

REPORT GENERATION TIME: 20090325/010140 GMT

DAILY EVENTS: 320 TO 353 FROM 20090324/000005 TO 20090324/220822 GMT

MISSION EVENTS: 3 TO 353 FROM 20090316/003430 TO 20090324/220822 GMT

	DAILY	MISSION
# OF EVENTS	14	132
# OF SUCCESSES	14	127
% SUCCESSES	100.0	96.2
# OF USABLE MINUTES	555.2	4973.0
# OF ANOMALOUS MINUTES	29.2	161.5
# OF INVALID MINUTES	70.3	426.2
# OF TOTAL MINUTES	654.7	5560.7
AV. USABLE MINUTES	39.7	37.7
AV. ANOMALOUS MINUTES	2.1	1.2
AV. INVALID MINUTES	5.0	3.2
AV. MINUTES PER EVENT	46.8	42.1
% USABLE	84.8	89.4
% ANOMALOUS	4.5	2.9
% INVALID	10.7	7.7

NO EVENTS WERE RATED AS FAILURES FOR TDRS- 5.

1

STS-119 TDRS- 6 TRACKING DATA DAILY REPORT FOR DAY 9

REPORT GENERATION TIME: 20090325/010140 GMT

DAILY EVENTS: 346 TO 346 FROM 20090324/175429 TO 20090324/175939 GMT

MISSION EVENTS: 22 TO 346 FROM 20090316/134331 TO 20090324/175939 GMT

	DAILY	MISSION
# OF EVENTS	1	5
# OF SUCCESSES	0	4
% SUCCESSES	0.0	80.0
# OF USABLE MINUTES	0.0	82.7
# OF ANOMALOUS MINUTES	1.5	2.2
# OF INVALID MINUTES	3.8	5.7
# OF TOTAL MINUTES	5.3	90.5
AV. USABLE MINUTES	0.0	16.5
AV. ANOMALOUS MINUTES	1.5	0.4
AV. INVALID MINUTES	3.8	1.1
AV. MINUTES PER EVENT	5.3	18.1
% USABLE	0.0	91.3

% ANOMALOUS	28.1	2.4
% INVALID	71.9	6.3

THE FOLLOWING DAILY EVENTS WERE RATED AS FAILURES FOR TDRS- 6:

EVT YYYYMMDD/HHMMSS	SERV	COMMENT
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346	20090324/175429	SSA2	72% invalid Doppler, no lock = 38%
1	STS-119 TDRS-10 TRACKING DATA DAILY REPORT FOR DAY 9		
REPORT GENERATION TIME: 20090325/010140 GMT			
DAILY EVENTS: 343 TO 352 FROM 20090324/160441 TO 20090324/210321 GMT			
MISSION EVENTS: 12 TO 352 FROM 20090316/060612 TO 20090324/210321 GMT			

	DAILY	MISSION
# OF EVENTS	2	4
# OF SUCCESSES	2	3
% SUCCESSES	100.0	75.0
# OF USABLE MINUTES	10.0	43.0
# OF ANOMALOUS MINUTES	0.0	1.2
# OF INVALID MINUTES	0.2	4.7
# OF TOTAL MINUTES	10.2	48.8
AV. USABLE MINUTES	5.0	10.8
AV. ANOMALOUS MINUTES	0.0	0.3
AV. INVALID MINUTES	0.1	1.2
AV. MINUTES PER EVENT	5.1	12.2
% USABLE	98.4	88.1
% ANOMALOUS	0.0	2.4
% INVALID	1.6	9.6

NO EVENTS WERE RATED AS FAILURES FOR TDRS-10.

1	59811	STS119dc000	20090315/232805	4	0315/234355	001855
2	59845	STS119dc001	20090315/234112	3	0316/000345	003625
3	59814	STS119dc001	20090315/234112	5	0316/003430	012410
4	59815	STS119dc001	20090315/234112	4	0316/012447	015507
5	59826	STS119dc002	20090316/104110	3	0316/015606	020746
6	59822	STS119dc002	20090316/104110	5	0316/020828	023918
7	59823	STS119dc002	20090316/104110	4	0316/023957	030947
8	59846	STS119dc003	20090316/110408	3	0316/031024	033934
9	59829	STS119dc003	20090316/110408	5	0316/034105	043015
10	59830	STS119dc003	20090316/110408	4	0316/043202	050632
11	59831	STS119dc003	20090316/110408	5	0316/051450	060540
12	59832	STS119dc003	20090316/110408	10	0316/060612	063922
13	59833	STS119dc004	20090316/110442	5	0316/064906	073616
14	59834	STS119dc004	20090316/110442	4	0316/074135	081435
15	59835	STS119dc005	20090316/110514	5	0316/082442	091612

16	59836	STS119dc005	20090316/110514	4	0316/091837	094857
17	59837	STS119dc006	20090316/110546	5	0316/100159	105529
18	59838	STS119dc006	20090316/110546	4	0316/105602	112412
19	59839	STS119dc007	20090316/110623	5	0316/113921	123121
20	59840	STS119dc007	20090316/110623	4	0316/123201	130121
21	59841	STS119dc007	20090316/110623	5	0316/131513	133823
22	59842	STS119dc007	20090316/110623	6	0316/134331	140511
23	59843	STS119dc007	20090316/110623	4	0316/140556	143846
24	59945	STS119dc008	20090316/175751	3	0316/143922	144902
25	59942	STS119dc008	20090316/175751	5	0316/144936	153946
26	59943	STS119dc008	20090316/175751	4	0316/154025	155315
27	59947	STS119dc008	20090316/174042	3	0316/155354	163034
28	59939	STS119dc008	20090316/174042	5	0316/163109	171329
29	59940	STS119dc008	20090316/174042	4	0316/171401	174931
30	59925	STS119dc009	20090316/152857	5	0316/175731	183231
31	59926	STS119dc009	20090316/152857	4	0316/183308	192318
32	59927	STS119dc010	20090316/170433	5	0316/193240	201930
33	59928	STS119dc010	20090316/170433	4	0316/202003	204813
34	59953	STS119dc011	20090316/184058	3	0316/204852	210802
35	59949	STS119dc011	20090316/184058	5	0316/210930	213710
36	59950	STS119dc011	20090316/184058	6	0316/213749	220139
37	59951	STS119dc011	20090316/184058	4	0316/220216	222206
38	60264	STS119dc012	20090316/202138	3	0316/222239	224639
39	60132	STS119dc012	20090316/202138	5	0316/224710	231450
40	60133	STS119dc012	20090316/202138	6	0316/231523	233903
41	60134	STS119dc012	20090316/202138	4	0316/233940	000830
42	60265	STS119dc013	20090316/215506	5	0317/002333	005203
43	60266	STS119dc013	20090316/215506	4	0317/005240	014600
44	60267	STS119dc014	20090316/232943	5	0317/015823	022943
45	60268	STS119dc014	20090316/232943	4	0317/023019	032249
46	60269	STS119dc015	20090317/010454	5	0317/033221	040621
47	60270	STS119dc015	20090317/010454	4	0317/040700	045810
48	60271	STS119dc016	20090317/023709	5	0317/050616	055726
49	60272	STS119dc016	20090317/023709	4	0317/055800	063220
50	60273	STS119dc017	20090317/041232	5	0317/064051	071541
51	60274	STS119dc017	20090317/041232	4	0317/071621	080621
52	60275	STS119dc018	20090317/054934	5	0317/082119	085329
53	60276	STS119dc018	20090317/054934	6	0317/085401	090921
54	60277	STS119dc018	20090317/054934	4	0317/091001	094101
55	60280	STS119dc019	20090317/072511	5	0317/095639	104759
56	60281	STS119dc019	20090317/072511	4	0317/104834	111004
57	60284	STS119dc020	20090317/090249	5	0317/113431	122341
58	60285	STS119dc020	20090317/090249	4	0317/122428	123508
59	60363	STS119dc021	20090317/104230	3	0317/123547	131507
60	60288	STS119dc021	20090317/104230	5	0317/131539	135809
61	60289	STS119dc021	20090317/104230	4	0317/135840	141000
62	60291	STS119dc022	20090317/121424	3	0317/143808	144118
63	60292	STS119dc022	20090317/121424	5	0317/144154	151514

64	60293	STS119dc022	20090317/121424	4	0317/151549	154619
65	60370	STS119dc023	20090317/185801	3	0317/154658	161518
66	60374	STS119dc023	20090317/190706	5	0317/161551	170801
67	60372	STS119dc023	20090317/190706	4	0317/170847	174357
68	60377	STS119dc024	20090317/192427	3	0317/174429	175039
69	60381	STS119dc024	20090317/193052	5	0317/175110	184540
70	60379	STS119dc024	20090317/193052	4	0317/184630	192010
71	60387	STS119dc025	20090317/194303	3	0317/192057	192757
72	60383	STS119dc025	20090317/194303	5	0317/192829	200029
73	60384	STS119dc025	20090317/194303	5	0317/200106	200256
74	60385	STS119dc025	20090317/194303	4	0317/200329	205639
75	60388	STS119dc026	20090317/184420	3	0317/205714	210724
76	60365	STS119dc026	20090317/184420	5	0317/210820	220510
77	60366	STS119dc026	20090317/184420	4	0317/220550	222540
78	60706	STS119dc027	20090317/202436	3	0317/222611	225951
79	60555	STS119dc027	20090317/202436	5	0317/230031	234341
80	60556	STS119dc027	20090317/202436	4	0317/234436	001356
81	60710	STS119dc028	20090317/220132	3	0318/001431	002621
82	60708	STS119dc028	20090317/220132	5	0318/003555	011835
83	60709	STS119dc028	20090317/220132	4	0318/011909	015359
84	60711	STS119dc029	20090317/234143	5	0318/020330	025640
85	60712	STS119dc029	20090317/234143	4	0318/025719	033159
86	60713	STS119dc030	20090318/011729	5	0318/033944	041524
87	60714	STS119dc030	20090318/011729	4	0318/041556	050936
88	60715	STS119dc031	20090318/025336	5	0318/051606	055226
89	60716	STS119dc031	20090318/025336	4	0318/055257	064547
90	60717	STS119dc032	20090318/043002	5	0318/065331	072841
91	60718	STS119dc032	20090318/043002	4	0318/072914	082214
92	60719	STS119dc033	20090318/060638	5	0318/083248	084828
93	60720	STS119dc033	20090318/060638	5	0318/084902	090452
94	60721	STS119dc033	20090318/060638	10	0318/090528	091038
95	60722	STS119dc033	20090318/060638	4	0318/091113	095943
96	60723	STS119dc034	20090318/074715	5	0318/101303	102613
97	60724	STS119dc034	20090318/074715	5	0318/102650	110900
98	60725	STS119dc034	20090318/074715	4	0318/110935	113855
99	60743	STS119dc035	20090318/092652	3	0318/113930	120300
100	60728	STS119dc035	20090318/092652	5	0318/120331	123831
101	60729	STS119dc035	20090318/092652	4	0318/123911	131901
102	60730	STS119dc036	20090318/112141	5	0318/132910	142220
103	60731	STS119dc036	20090318/112141	4	0318/142300	145750
104	60744	STS119dc037	20090318/124218	3	0318/145825	150515
105	60734	STS119dc037	20090318/124218	5	0318/150548	155038
106	60735	STS119dc037	20090318/124218	4	0318/155111	163501
107	60736	STS119dc037	20090318/124218	3	0318/163534	163904
108	60741	STS119dc038	20090318/170938	5	0318/164144	172704
109	60742	STS119dc038	20090318/170938	4	0318/172741	181121
110	60737	STS119dc039	20090318/155315	3	0318/181523	181803
111	60738	STS119dc039	20090318/155315	5	0318/181850	190110

112	60739	STS119dc039	20090318/155315	4	0318/190141	194731
113	60749	STS119dc040	20090318/173213	3	0318/194811	201651
114	60746	STS119dc040	20090318/173213	5	0318/201731	204351
115	60747	STS119dc040	20090318/173213	4	0318/204431	212441
116	60754	STS119dc041	20090318/191056	3	0318/212520	215300
117	60751	STS119dc041	20090318/191056	5	0318/215331	223411
118	60752	STS119dc041	20090318/191056	4	0318/223446	225956
119	61101	STS119dc042	20090318/205101	3	0318/230029	232629
120	61010	STS119dc042	20090318/205101	5	0318/232707	000937
121	61011	STS119dc042	20090318/205101	4	0319/001016	004336
122	61106	STS119dc043	20090318/222929	3	0319/004951	010201
123	61103	STS119dc043	20090318/222929	5	0319/010237	014757
124	61104	STS119dc043	20090318/222929	4	0319/014836	022206
125	61158	STS119dc044	20090319/000613	3	0319/022246	024346
126	61108	STS119dc044	20090319/000613	5	0319/024417	032417
127	61109	STS119dc044	20090319/000613	4	0319/033541	034151
128	61110	STS119dc044	20090319/000613	4	0319/034731	035911
129	61159	STS119dc045	20090319/014218	3	0319/035950	042440
130	61113	STS119dc045	20090319/014218	5	0319/042511	050111
131	61114	STS119dc045	20090319/014218	4	0319/050142	053452
132	61160	STS119dc046	20090319/031820	3	0319/053528	060248
133	61117	STS119dc046	20090319/031820	5	0319/060321	063931
134	61118	STS119dc046	20090319/031820	4	0319/064008	071018
135	61161	STS119dc047	20090319/045627	3	0319/071054	074104
136	61121	STS119dc047	20090319/045627	5	0319/074135	081235
137	61122	STS119dc047	20090319/045627	4	0319/081311	085021
138	61162	STS119dc048	20090319/063636	3	0319/085058	091738
139	61125	STS119dc048	20090319/063636	5	0319/091817	095927
140	61126	STS119dc048	20090319/063636	4	0319/095958	102848
141	61163	STS119dc049	20090319/081647	3	0319/102923	103903
142	61129	STS119dc049	20090319/081647	5	0319/104226	113706
143	61130	STS119dc049	20090319/081647	4	0319/113746	120626
144	61164	STS119dc050	20090319/095504	3	0319/120657	121937
145	61133	STS119dc050	20090319/095504	5	0319/122010	131340
146	61134	STS119dc050	20090319/095504	4	0319/131417	134807
147	61149	STS119dc051	20090319/113158	5	0319/135645	144955
148	61150	STS119dc051	20090319/113158	4	0319/145029	152559
149	61151	STS119dc052	20090319/130939	5	0319/153255	162635
150	61152	STS119dc052	20090319/130939	4	0319/162710	170230
151	61165	STS119dc053	20090319/144606	3	0319/170309	170859
152	61155	STS119dc053	20090319/144606	5	0319/170931	180441
153	61156	STS119dc053	20090319/144606	4	0319/180514	183844
154	61170	STS119dc054	20090319/162359	3	0319/183921	184651
155	61167	STS119dc054	20090319/162359	5	0319/184729	193759
156	61168	STS119dc054	20090319/162359	4	0319/193831	201531
157	61175	STS119dc055	20090319/180250	3	0319/201602	204452
158	61172	STS119dc055	20090319/180250	5	0319/204531	212421
159	61173	STS119dc055	20090319/180250	4	0319/212500	215340

160	61180	STS119dc056	20090319/195852	3	0319/215411	222051
161	61177	STS119dc056	20090319/195852	5	0319/222131	225951
162	61178	STS119dc056	20090319/195852	4	0319/230309	233309
163	61423	STS119dc057	20090319/215524	3	0319/233347	235757
164	61421	STS119dc057	20090319/215524	5	0319/235831	003911
165	61422	STS119dc057	20090319/215524	4	0320/003949	011319
166	61424	STS119dc058	20090319/225659	3	0320/012519	012959
167	61425	STS119dc058	20090319/225659	5	0320/013032	021532
168	61426	STS119dc058	20090319/225659	4	0320/021608	025138
169	61427	STS119dc059	20090320/003429	5	0320/025831	035201
170	61428	STS119dc059	20090320/003429	4	0320/035237	042817
171	61429	STS119dc060	20090320/021150	5	0320/043458	052938
172	61430	STS119dc060	20090320/021150	4	0320/053018	060148
173	61676	STS119dc061	20090320/034902	3	0320/060220	063130
174	61433	STS119dc061	20090320/034902	5	0320/063202	064722
175	61434	STS119dc061	20090320/034902	4	0320/064801	073731
176	61709	STS119dc062	20090320/052622	3	0320/073802	080832
177	61437	STS119dc062	20090320/052622	5	0320/080910	084930
178	61438	STS119dc062	20090320/052622	4	0320/085004	091634
179	61710	STS119dc063	20090320/070735	3	0320/091711	093951
180	61441	STS119dc063	20090320/070735	5	0320/094031	102811
181	61442	STS119dc063	20090320/070735	4	0320/102843	105443
182	61711	STS119dc064	20090320/084843	3	0320/105520	110740
183	61445	STS119dc064	20090320/084843	5	0320/111105	120505
184	61446	STS119dc064	20090320/084843	4	0320/120539	123759
185	61447	STS119dc065	20090320/102531	5	0320/124806	134116
186	61448	STS119dc065	20090320/102531	4	0320/134152	141652
187	61712	STS119dc066	20090320/120159	3	0320/141732	142342
188	61627	STS119dc066	20090320/120159	5	0320/142419	145929
189	61628	STS119dc066	20090320/120159	4	0320/150007	155357
190	61713	STS119dc067	20090320/133651	3	0320/155429	155959
191	61643	STS119dc067	20090320/133651	5	0320/160037	165457
192	61644	STS119dc067	20090320/133651	4	0320/165536	172836
193	61714	STS119dc068	20090320/151527	3	0320/172911	174451
194	61671	STS119dc068	20090320/151527	5	0320/174531	182731
195	61672	STS119dc068	20090320/151527	4	0320/182811	190631
196	61732	STS119dc069	20090320/165119	3	0320/190706	191626
197	61716	STS119dc069	20090320/165119	5	0320/191658	200638
198	61717	STS119dc069	20090320/165119	4	0320/200711	204351
199	61733	STS119dc070	20090320/183217	3	0320/204921	211251
200	61730	STS119dc070	20090320/183217	5	0320/211331	215321
201	61731	STS119dc070	20090320/183217	4	0320/215401	222251
202	61811	STS119dc071	20090320/201338	3	0320/223111	224851
203	61812	STS119dc071	20090320/201338	5	0320/224931	233031
204	61813	STS119dc071	20090320/201338	4	0320/233112	000312
205	62078	STS119dc072	20090320/215006	3	0321/001512	002552
206	62079	STS119dc072	20090320/215006	5	0321/002631	010651
207	62080	STS119dc072	20090320/215006	4	0321/010727	014217

208	62081	STS119dc073	20090320/232522	3	0321/015153	020133
209	62082	STS119dc073	20090320/232522	5	0321/020210	023500
210	62083	STS119dc073	20090320/232522	4	0321/023531	031741
211	62125	STS119dc074	20090321/010033	3	0321/031814	035324
212	62086	STS119dc074	20090321/010033	5	0321/035400	042010
213	62087	STS119dc074	20090321/010033	4	0321/042042	045312
214	62126	STS119dc075	20090321/023733	3	0321/045349	052129
215	62090	STS119dc075	20090321/023733	5	0321/052202	055332
216	62091	STS119dc075	20090321/023733	4	0321/055411	063211
217	62127	STS119dc076	20090321/041637	3	0321/063246	065926
218	62094	STS119dc076	20090321/041637	5	0321/070000	071500
219	62095	STS119dc076	20090321/041637	4	0321/071531	080501
220	62128	STS119dc077	20090321/055548	3	0321/080532	083602
221	62098	STS119dc077	20090321/055548	5	0321/083640	091840
222	62099	STS119dc077	20090321/055548	4	0321/091914	094334
223	62129	STS119dc078	20090321/073846	3	0321/094414	095724
224	62102	STS119dc078	20090321/073846	5	0321/100134	105614
225	62103	STS119dc078	20090321/073846	4	0321/105647	112517
226	62130	STS119dc079	20090321/091657	3	0321/112548	113528
227	62106	STS119dc079	20090321/091657	5	0321/113911	123231
228	62107	STS119dc079	20090321/091657	4	0321/123310	130730
229	62108	STS119dc080	20090321/105035	5	0321/131537	140847
230	62109	STS119dc080	20090321/105035	4	0321/140921	144311
231	62110	STS119dc081	20090321/122942	5	0321/145146	154536
232	62111	STS119dc081	20090321/122942	4	0321/154610	162130
233	62131	STS119dc082	20090321/140500	3	0321/162201	162751
234	62114	STS119dc082	20090321/140500	5	0321/162828	172348
235	62115	STS119dc082	20090321/140500	4	0321/172430	175740
236	62132	STS119dc083	20090321/154417	3	0321/175813	180553
237	62118	STS119dc083	20090321/154417	5	0321/180643	185633
238	62119	STS119dc083	20090321/154417	4	0321/185711	193431
239	62133	STS119dc084	20090321/172326	3	0321/193502	195652
240	62122	STS119dc084	20090321/172326	5	0321/195731	203331
241	62123	STS119dc084	20090321/172326	4	0321/203411	211241
242	62303	STS119dc085	20090321/190232	3	0321/211318	214058
243	62135	STS119dc085	20090321/190232	5	0321/214131	222141
244	62136	STS119dc085	20090321/190232	4	0321/222218	225238
245	62472	STS119dc086	20090321/204145	3	0321/225317	231657
246	62331	STS119dc086	20090321/204145	5	0321/231731	234531
247	62332	STS119dc086	20090321/204145	4	0321/235011	003231
248	62441	STS119dc087	20090321/221655	5	0322/004110	013420
249	62442	STS119dc087	20090321/221655	4	0322/013456	021036
250	62443	STS119dc088	20090321/235358	5	0322/021717	025317
251	62444	STS119dc088	20090321/235358	4	0322/025353	034713
252	62445	STS119dc089	20090322/013120	5	0322/035348	042958
253	62446	STS119dc089	20090322/013120	4	0322/043035	052005
254	62473	STS119dc090	20090322/030720	3	0322/052037	054537
255	62449	STS119dc090	20090322/030720	5	0322/054611	060611

256	62450	STS119dc090	20090322/030720	4	0322/060646	065546
257	62474	STS119dc091	20090322/044713	3	0322/065622	072652
258	62453	STS119dc091	20090322/044713	4	0322/074319	083259
259	62475	STS119dc092	20090322/062705	3	0322/083336	085646
260	62456	STS119dc092	20090322/062705	5	0322/085725	094715
261	62457	STS119dc092	20090322/062705	4	0322/094750	101330
262	62476	STS119dc093	20090322/080639	3	0322/101405	102605
263	62460	STS119dc093	20090322/080639	5	0322/103011	112401
264	62461	STS119dc093	20090322/080639	4	0322/112435	115745
265	62462	STS119dc094	20090322/094149	5	0322/120700	130010
266	62463	STS119dc094	20090322/094149	4	0322/130043	133603
267	62464	STS119dc095	20090322/111908	5	0322/134309	142759
268	62465	STS119dc095	20090322/111908	4	0322/142839	151249
269	62466	STS119dc096	20090322/125447	5	0322/151928	160358
270	62467	STS119dc096	20090322/125447	4	0322/160431	164541
271	62468	STS119dc097	20090322/143409	5	0322/165651	174151
272	62469	STS119dc097	20090322/143409	4	0322/174231	182521
273	62470	STS119dc098	20090322/161000	5	0322/183615	192235
274	62471	STS119dc098	20090322/161000	4	0322/192311	200251
275	62477	STS119dc099	20090322/175017	5	0322/201640	202130
276	62478	STS119dc099	20090322/175017	3	0322/202204	202834
277	62479	STS119dc099	20090322/175017	5	0322/202907	210237
278	62480	STS119dc099	20090322/175017	4	0322/210311	214221
279	62481	STS119dc100	20090322/193056	5	0322/215527	224937
280	62482	STS119dc100	20090322/193056	4	0322/225013	232233
281	62730	STS119dc101	20090322/210837	5	0322/233231	002541
282	62731	STS119dc101	20090322/210837	4	0323/002622	010122
283	62799	STS119dc102	20090322/224333	5	0323/010844	014404
284	62800	STS119dc102	20090322/224333	4	0323/014444	023834
285	62922	STS119dc103	20090323/001955	3	0323/023906	031156
286	62803	STS119dc103	20090323/001955	4	0323/032511	041441
287	62923	STS119dc104	20090323/020010	3	0323/041521	043951
288	62806	STS119dc104	20090323/020010	5	0323/044031	051811
289	62807	STS119dc104	20090323/020010	4	0323/051851	055101
290	62924	STS119dc105	20090323/033649	3	0323/055141	061741
291	62810	STS119dc105	20090323/033649	4	0323/063731	072821
292	62925	STS119dc106	20090323/051458	3	0323/072856	075426
293	62813	STS119dc106	20090323/051458	4	0323/081115	090715
294	62926	STS119dc107	20090323/065519	3	0323/090756	091556
295	62816	STS119dc107	20090323/065519	5	0323/092055	101515
296	62817	STS119dc107	20090323/065519	4	0323/101556	104236
297	62927	STS119dc108	20090323/083437	3	0323/104311	105801
298	62820	STS119dc108	20090323/083437	5	0323/105839	115129
299	62821	STS119dc108	20090323/083437	4	0323/115211	122641
300	62822	STS119dc108	20090323/083437	3	0323/122725	122955
301	62823	STS119dc109	20090323/100931	5	0323/123437	132737
302	62824	STS119dc109	20090323/100931	4	0323/132820	140400
303	62890	STS119dc110	20090323/114459	5	0323/141043	145923

304	62891	STS119dc110	20090323/114459	4	0323/150001	154021
305	62928	STS119dc111	20090323/132431	3	0323/154101	154711
306	62911	STS119dc111	20090323/132431	5	0323/154742	163152
307	62912	STS119dc111	20090323/132431	4	0323/163231	171631
308	62929	STS119dc112	20090323/150022	3	0323/171712	172532
309	62915	STS119dc112	20090323/150022	5	0323/172603	181153
310	62916	STS119dc112	20090323/150022	4	0323/181231	185321
311	62930	STS119dc113	20090323/163949	3	0323/185406	191956
312	62919	STS119dc113	20090323/163949	5	0323/192031	195131
313	62920	STS119dc113	20090323/163949	4	0323/195211	203151
314	62935	STS119dc114	20090323/181921	3	0323/203239	205859
315	62932	STS119dc114	20090323/181921	5	0323/205931	213721
316	62933	STS119dc114	20090323/181921	4	0323/213801	220031
317	63108	STS119dc115	20090323/195907	3	0323/220111	223551
318	62937	STS119dc115	20090323/195907	5	0323/223631	230851
319	62938	STS119dc115	20090323/195907	4	0323/230931	235151
320	63238	STS119dc116	20090323/213441	5	0324/000005	004535
321	63239	STS119dc116	20090323/213441	4	0324/004611	012931
322	63240	STS119dc117	20090323/231411	5	0324/013614	022944
323	63241	STS119dc117	20090323/231411	4	0324/023033	030603
324	63242	STS119dc118	20090324/004950	5	0324/031247	040747
325	63243	STS119dc118	20090324/004950	4	0324/040842	044212
326	63244	STS119dc119	20090324/022528	5	0324/045046	053736
327	63245	STS119dc119	20090324/022528	4	0324/053814	061854
328	63246	STS119dc120	20090324/040459	5	0324/063056	071336
329	63247	STS119dc120	20090324/040459	4	0324/071411	075701
330	63277	STS119dc121	20090324/054434	3	0324/075748	080508
331	63250	STS119dc121	20090324/054434	5	0324/081116	090616
332	63251	STS119dc121	20090324/054434	4	0324/090700	092600
333	63278	STS119dc122	20090324/072409	3	0324/092631	094431
334	63254	STS119dc122	20090324/072409	5	0324/094925	104245
335	63255	STS119dc122	20090324/072409	4	0324/104339	111659
336	63256	STS119dc123	20090324/090348	5	0324/112608	121848
337	63257	STS119dc123	20090324/090348	4	0324/121935	125505
338	63258	STS119dc124	20090324/103903	5	0324/130159	134659
339	63259	STS119dc124	20090324/103903	4	0324/134731	142351
340	63279	STS119dc125	20090324/121452	3	0324/142431	143741
341	63262	STS119dc125	20090324/121452	5	0324/143818	153258
342	63263	STS119dc125	20090324/121452	4	0324/153345	160405
343	63264	STS119dc125	20090324/121452	10	0324/160441	160951
344	63265	STS119dc126	20090324/135045	5	0324/161548	164728
345	63266	STS119dc126	20090324/135045	4	0324/165042	173942
346	63267	STS119dc127	20090324/153022	6	0324/175429	175939
347	63268	STS119dc127	20090324/153022	3	0324/180016	181916
348	63269	STS119dc127	20090324/153022	5	0324/181947	182627
349	63270	STS119dc127	20090324/153022	4	0324/182659	192149
350	63271	STS119dc128	20090324/170955	5	0324/193543	203133
351	63272	STS119dc128	20090324/170955	4	0324/203209	205809

352	63273	STS119dc128	20090324/170955	10	0324/205841	210321
353	63274	STS119dc129	20090324/184935	5	0324/211422	220822
354	63275	STS119dc129	20090324/184935	4	0324/220858	223808
355	63276	STS119dc129	20090324/184935	3	0324/223848	224748